

A CASE STUDY OF THE INFUSION OF BIOETHICS INTO A
MEDICAL SCHOOL CURRICULUM

A Dissertation

by

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ABSTRACT

A review of literature found no case studies regarding the inclusion of bioethics in the medical school curriculum were found in the scholarly literature, including dissertations. Additionally, no study has been published reporting the inclusion of bioethics in the Texas A&M Health Science Center College of Medicine (TAMHSC-COM) curriculum. The purpose of this dissertation was to document how the study of bioethics was incorporated into the medical education curriculum at the TAMHSC-COM. The following question guided this dissertation research: How has the study of bioethics been implemented and taught in the medical curriculum at the TAMHSC-COM?

This qualitative single case study investigated how bioethics was incorporated into the TAMHSC-COM curriculum. Validity was obtained through the use of triangulation, and prolonged observation of documentation. In order to determine how the study of bioethics was included in the curriculum, an examination and analysis was carried out of available course catalogs and bulletins, syllabi, and assigned course readings.

The results showed that although the term ethics appeared in the General Statements sections of the TAMHSC-COM catalogs and bulletins, no reference to bioethics was found. Nor was bioethics found in the descriptions of courses or electives offered in the department. Examination of available syllabi found bioethics listed in only three class lecture topics.

Examination of texts, references and cross-references regarding ethical and bioethical citations, and printed material, found a tendency of authors to make little or no

distinction between the terms ethics and bioethics. Often both terms were used in a single paragraph referring to a single situation.

The results revealed a greater use of the term ethics than bioethics in the curriculum. A lack of distinction between the two terms reflects the lack of recognition of bioethics as a separate discipline in the literature. There is no evidence that students enrolled in the TAMHSC-COM recognize a difference between an ethical or bioethical perspective. One conclusion is that the TAMHSC-COM instructors followed the trend of the medical field in not emphasizing bioethics as a separate discipline, especially after recognized authors ceased to make that distinction.

DEDICATION

This dissertation is dedicated to my parents, Gene and Ahnawake, who understood the value of education, and to my children, David and Stephen and my daughter-in-law, Jessica. May you always experience great joy in learning.

And to God, who gave me the dream and enabled me to fulfill it.

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NOMENCLATURE

ACLS	Advanced Cardiovascular Life Support
AAMC	Association of American Medical Colleges
BAC I	Becoming a Clinician I
BAC II	Becoming a Clinician II
BAC IV	Becoming a Clinician IV
COM	College of Medicine
DoH	Declaration of Helsinki
Corpus	HIPPOCRATIC CORPUS
Oath	HIPPOCRATIC OATH
LCME	Liaison Committee on Medical Education
PBL	Problem Based Learning
SACS	Southern Association of Colleges and Schools
TAMHSC-COM	Texas A&M Health Science Center College of Medicine
TAMU-COM	Texas A&M University College of Medicine
TAMU-HSC	Texas A&M University Health Science Center
TAMC	Texas Agricultural and Mechanical College
TAMU	Texas A&M University
THECB	Texas Higher Education Coordinating Board
US	United States

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CHAPTER I

INTRODUCTION AND LITERATURE REVIEW

At the conclusion of World War II, the Allied nations created an International Military Tribunal (Tribunal) based in Nuremberg, Germany. The Tribunal was given the authority “to try and punish persons who, acting in the interest of the Eastern European countries whether as individuals or as members of organizations” committed criminal acts in the areas of Crimes against Peace, War Crimes, or Crimes against Humanity (Charter of the International Military Tribunal, Article 6; Meltzer, 2002). The Doctors’ Trial, one of the principal trials held by the Tribunal, began in early 1947. The defendants, 20 leading Nazi physicians and three medical administrators, were accused of crimes against humanity by establishing and participating in scientific and medical experiments on unwilling civilians and prisoners of war which resulted in disability, disfigurement, or death. At the end of the Doctors’ Trial on August, 19, 1947, sixteen of the defendants were pronounced guilty, nine of the defendants were sentenced to prison terms, and seven were sentenced to death.

The Tribunal’s final judgment ends with a statement of ten points, known as the Nuremberg Code, which serve as principles for ethical research with human subjects (Jonsen, Veatch, & Walters, 1998, p. 11). According to Jonsen (1998) the Nuremberg Code is looked upon as “...a new beginning in the moral traditions of medicine, a beginning that would become bioethics” (p. 135). The Doctors’ Trial unveiled moral concerns regarding medical research and human experimentation as well as concerns about ethical

problems resulting from medical and scientific advances. The purpose of the Nuremberg code was “to assure that research involving human subjects would be carried out in an ethical manner” (Jonsen, Veatch, & Walters, 1998, p. 22).

The most salient of the principles set forth in the Nuremberg Code was that of the voluntary consent of the individual to participate in the research experiment. Moreover, the individual should possess sufficient knowledge and comprehension of the elements involved in the research in order to make an informed decision regarding the decision to participation in the research experiment. Also, individuals should be informed regarding the risks and benefits of participation in the research. The individual has the right to withdraw from the research experiment at anytime (Annas & Grodin, 1992, p. 2).

Reich (1995), defines bioethics as “the systematic study of the moral dimensions – including moral vision, decisions, conduct, and policies – of the life sciences and health care, employing a variety of ethical methodologies in an interdisciplinary setting” (p. xxi). Bioethics began to emerge as moral questions raised as a result of the Nuremberg Doctor’s Trial served to illuminate the need for the study of ethical dimensions of medicine and biological sciences. The ethics of human experimentation became the first serious challenge to the tradition in medical ethics to “help and do no harm” in the treatment and care of patients.

To appreciate the effect of the Nuremberg Code on Western medical education and practice and its relationship to bioethics, one needs to understand the state of medical education in the mid-20th century and how that state had developed over the preceding 2000 years in Europe and the United States. Furthermore, the history of medicine, medi-

cal education, and medical ethics, "...should illuminate the past in order to provide the perspective in time and place that we need to make reflective decisions on the [medical] education choices that face us today" (Gutek, 1995, p. ix). This introduction, a brief history of medicine, and medical ethics, is organized using the following thematic strands:

- Magico-religious
- Medical education
- Ethics of practice
- Philosophical-Theological

Magico-Religious Practice of Medicine

The medical ethics, and later bioethics, of a society can be regarded as a microcosm of the social ethics of that particular society. The association of religion and medicine has existed in tandem albeit in varying degrees of influence and importance.

Amundsen and Ferngren (1995) state:

An ethical framework exists for the practice of medicine wherever those who treat disease, even in a magico-religious form, administer healing. In seeking to reconstruct the medical ethics of any society, one must understand the broad cultural framework within which healers function in order to appreciate the ethical considerations that directly or indirectly govern the practice of their art. (p. 1440)

Thus, the ethical responsibilities of healers must be viewed in terms of their role in the understanding of the treatment of illness and healing within the reality of the social and cultural values of their culture.

The practice of medicine in ancient Mesopotamia (ca. 3100 BCE) was linked with the practice of religion. Life in Mesopotamia was shaped by polytheistic religions steeped in magical practices. Health and illness were defined within the practice of religion (Amundsen & Ferngren, 1995). Health was equated with the individual's abiding

in harmony with nature. Illness indicated disharmony within the individual's environment and was regarded as a sign of judgment and punishment from the gods.

Early Mesopotamian medicine was delivered by *bârû* (seers), *âshipu* (priests), or *âsû* (physicians), (Amundsen & Ferngren, 1995; Porter, 1997; Spiegel & Springer, 1997). Regarding the roles of the seers and priests, Reiner (1964) states that "...these two professions [seers and priests] were distinct but not conflicting" (p. 546). The role of the seer was divination. The seer was responsible for seeking out or finding the cause of the "sin" that caused the individual's illness (Biggs, 1969; Bullough, 1966; Spiegel & Springer, 1997). The duties of the priest focused on performing magic rituals, such as incantations and prayers, in order to break the spell of the individual's illness determined by the seer (Biggs, 1969; Bullough, 1966; Porter, 1997). The role of the priest was to interpret the nature of signs and symptoms of the patient's illness and arrive at a diagnosis and prognoses. The expected outcome of the magic rituals was not to render a cure for the patient but identify an illness or disease as well as to ascertain whether the patient would recover or die (Reiner, 1964).

The role of the Mesopotamian physician was that of practitioner and pharmacist. The physician's area of medical practice concentrated on the treatment of disease which was thought to be due to natural causes (Biggs, 1969; Reich, 1995; Reiner, 1964). The responsibilities of physicians included the bandaging of wounds, surgery, and the preparation and administration of purgatives, potions, and lotions (Biggs, 1969; Porter, 1997; Spiegel & Springer, 1997). As in ancient Mesopotamia, sacred healing and belief in mythical deities permeated ancient Greek culture. According to Amundsen (1995a),

“Although some herbal medicine and primitive surgery were employed by Greeks as early as the time represented in the Homeric epics (before 750 BCE), the understanding and treatment of disease were predominately magico-religious” (p. 1510). The state of the individual’s health or illness was ascribed to the works of the gods. Mythical deities and heroes were ascribed with abilities to teach herbal remedies, heal illnesses, experiment with new treatment methods, and, when angry, send injuries, diseases, and plagues upon humans (Angeletti, 1991; Bullough, 1966; Porter, 1997).

Early Greek references to religious beliefs and the practice of medicine appear in Homeric epics, the *Iliad* and the *Odyssey* (ca. 850 BCE) (Homer, trans, 1966). Homer’s epics represent the oldest form of ancient Greek literature and provide insight into the “...wisdom...beliefs and values of the ancient Greek lifestyle” (Gutek, 1995, p. 15).

Medicine in the *Iliad* is a noble art. All the heroes knew some medicine. There were some, however, who were particularly expert in medicine and they were held in great honor since the physician was a ‘man who was worth more than many others’. (Bullough, 1966, p. 14; Homer, trans. 1924)

The forms of Greek medicine and practices referenced in Homer’s epics included herbal medicine and primitive surgery. The *Iliad* portrays the physician as a layman called out of the army of warriors to treat and apply salves to a wounded king (Homer, trans. 1924). The healer in the *Odyssey* is summoned and invoked incantation as a form of religious healing to treat a bleeding wound (Homer, trans. 1924). Jonsen (2000) stated that, “These two forms of healing persisted together throughout the classical period. The healers who use soothing remedies evolve into the physicians of the classical era; the cantors remain practitioners of magical and religious healing” (p. 1). Nutton (1992) states that although early Greek “healers” possessed information about herbs and first

aid, there is a lack of evidence to support the view that "...there must have been a specific group of men whose duty it was solely to treat the sick and wounded" (p. 16).

The Hellenic period (ca. 500 BCE) also saw the practice of medicine begin to develop into a discipline "based upon empirical observation and logical reasoning. Healing began to be called an art or skill... and its practitioners craftsmen (Amundsen, 1995a; Jonsen, 2000, p. 1). According to Amundsen (1995a), "Desacralized" medicine was an important aspect of Greek culture that spread throughout the Mediterranean world during the Hellenistic period (p. 1510). In addition, Amundsen and Ferngren state that, "they [physicians] began to deal with disease and other physical ailments both empirically and rationally, not magically, mystically, or superstitiously" (1995a, p. 1510). Hippocratic medicine was founded in "a healing system independent of the supernatural and built upon natural philosophy" (Porter, 1997, p. 53). The separation between physicians and religion allowed physicians to treat illnesses and diseases based upon a rational or speculative framework used to interpret health and illness (Amundsen, 1995a).

Although the practice of medicine began to develop into a discipline centered on observation and reasoning, the worship of deities and their perceived ability to cause or cure diseases remained prevalent in Greek society. The most prominent healing gods of Greece were Apollo and Asclepius. The temples of these gods were frequently visited by ill or afflicted individuals from a cross section of Greek social classes. Kiple (2006) states that, "Religious healing was an ever-present alternative that was sought particularly in chronic cases" (p. 34). Temple visitors frequently slept overnight at the temple hoping that the gods would heal them of their illness. The role of the temple priests in-

cluded the interpretation of visions and dreams and the prescription of treatments (Nutton, 1992, p. 34).

The Hippocratic *Oath*, one of the writings found in the *Hippocratic corpus*, acknowledges that the Hellenic physician's practice of medicine takes place within the culture of religious tradition moral framework (Veatch, 1995). Although physicians are asked to swear upon several gods of healing before taking the *Oath*, according to Nutton (1992), physicians in the Hellenic period did not enter into the religious practices of the temples although there was no opposition to temple medicine (Nutton, 1992, p. 34).

Moreover, Nutton (2006) states that, "Few doctors rejected divine intervention, and most believed in a divinely ordered world, yet they were also convinced that their treatments were effective without the guidance of the gods, and could not be accused of being magical" (p. 51). Because of the separation of religion and the practice of medicine, Hellenic physicians were no longer viewed as mediators with the gods but as physicians concerned with the welfare of the patient (Amundsen & Ferngren, 1983; Porter, 1997).

By 146 BCE, as a result of a series of military conquests, Greece fell under Roman domination (Gutek, 1995). Historically, however, commercial and cultural ties between Rome and Greek cities existed as early as the third century BCE. In addition, Roman control of the Mediterranean led to a wider distribution of Greek medical ideas and practices (Bullough, 1966). The practice of Greek rational medicine began to flourish in Rome during the third century BCE. By 80 BCE, Greek physicians, many of whom were former or current slaves, were common in Italy, especially in Rome (Nutton, 2006, p. 53).

Roman medicine (fifth-third century BCE), prior to the influence of Greek medicine in the third century BCE, consisted of folk medicine and magical incantations and rituals. The appearance of the cult of Asclepius in Rome (third century BCE) provided a "...Greek alternative of religious healing to earlier Roman magico-religious practices as well as a quasi-rationalistic and empirical alternative to traditional Roman folk medicine and to incipient Greek rational medicine" (Amundsen & Fergren, 1983, p. 13). The magical and healing practices of the religious cults embodied superstitious practices that relied upon astrology and alchemy (p. 13). Roman citizens and civil authorities viewed disease, plagues, and famines as punishment from the gods for disobedience (Risse, 1999).

The Roman physician and scientist Galen of Pergamum (129-161 CE), supported the concept that the brain was capable of turning spirits into animal spirits to be disseminated through nerves which resulted in sensation and movement. Furthermore, Galen the concept of foretelling of the future by spirits but believed in the significance of the individual's dreams and incorporated aspects of the god Asclepius into his medical practice (Porter, 1997). Regarding the rationalization of the employment of practices resulting from magical and religious practices, Nutton (1992) states that "It is impossible also to tell, at this distance in time, exactly why any individual doctor or patient accepted or rejected any specific piece of magic, for the distinction between magic and medicine...is fluid" (p. 33). The practice of magico-religious healing methods characterized by superstitious views and practices continued in the Roman Empire until the close of the fourth century CE.

Following the collapse of the Western Roman Empire in the fifth century CE, “...the [Roman Catholic] Church acted as the preserver of learning, including medicine” (Nutton, 2006, p. 56). Prior to the fall of the Western Roman Empire, Emperor Constantine (313 CE) recognized Christianity as the official religion of the realm. Jonsen (2000) states that “...the Church found itself in a constant battle against the use of magic and superstition in the work of healing. It championed rational medicine, along with prayer, to counter superstition” (p. 13). The early Church acknowledged the hand of God at work in human lives by allowing suffering and sickness as chastisement for sin while affirming that healing was the result of God’s kindness and goodness.

Belief in the practice of magic mixed with religious practices permeated the Middle Ages. Shrines of saints and martyrs replaced the temples of Asclepius and other Greek deities. Individuals made pilgrimages to the shrines seeking supernatural healing of disease or illness. Shrine priests also served as *medici* or craftsman trained in medical techniques through apprenticeship attempted to treat the illnesses and relieve the pain of pilgrim visitors (Amundsen & Ferngren, 1983). The role of the *medici* was seen as not entirely inconsistent with the views of the Church (Amundsen, 1995a). In contrast, incantatores (enchanters, magicians, witch doctors) attempted to dispense healing through supernatural remedies, incantations, and charms (Flint, 1989).

... the church [did not] make any concerted effort, during these early centuries, to define the responsibilities and regulate the conduct of secular or monastic/clerical physicians, other than to wage vigorous warfare against the illicit means of healing that typically were employed by...incantatores. (Amundsen, 1995b, p. 1524)

The incantatores are viewed as “diabolical practitioners of illicit arts” diametrically opposed to the precepts of the Church (Flint, 1989; Amundsen, 1995a).

The practice of medicine in the early middle ages was primarily delivered through monasteries by monk-physicians or in convents by nuns of the Catholic Church (Reich, 1995).

...clerical or monastic physicians were first and foremost clergy for whom the practice of medicine was an extension of their ministerial role, an act of Christian charity performed for the glory of God and the love of man. It was not sacerdotal medicine as practiced by priests in societies where the supernatural etiology of disease dictated a reliance upon supernatural means of treatment. The medicine practiced by monastic or clerical physicians, although by modern standards riddled with simplistic, erroneous, and sometimes superstitious explanations and procedures, was nevertheless essentially rational. (Amundsen & Ferngren, 1983, p. 16)

The care of the sick, poor, and homeless was advocated by the early Church. Monasteries and convents served, not only as places of prayer and worship but also as hospitals or hospices that provided medical care, food, and shelter for sick monks, nuns, and the destitute. The duties of the monks and nuns required medical care to be administered with Christian charity, compassion, and sorrow for the suffering of others (Risse, 1999).

The high and later Middle Ages (1050-1500 BCE) saw a decline in monastic or clerical medicine and a rise in colleges for the training of secular physicians and specialized training for medical guilds. The trend toward more educated and standardized approaches in the delivery of medical care as well as the trend toward a more secularized medical practice promoted separation between magico-religious practices and the practice of medicine.

The belief in magico-religious practices, however, lingered into the high and later Middle Ages. The trend to view health and illness as a consequence of God's favor or wrath upon mankind continued. The intermittent outbreaks of plagues that swept

throughout Europe around 1350 were interpreted as examples of God's wrath sent to punish mankind for sins. Practices such as pilgrimages made by the ill and dying to the healing shrines of the saints were replaced by the belief that the saints of the shrines were capable of manifesting healing at a distance as well as within the setting of a shrine. "Christians began to make pilgrimages only after the miracle they had request[ed] materialized, rather than before". (Park, 1992, p. 74)

The practice of medicine during the Renaissance and Enlightenment (1400-1800) centered on physiological models of health and disease. As the magico-religious practices of healing diminished throughout the Renaissance and Enlightenment, physicians looked to the Newtonian model of rigorous observation and critical reasoning and searched for basic laws related to health and illness in human beings (King, 1991). Enlightenment physicians sought to establish "...a rational theory of medicine which should provide comprehensive explanations of disease causation and effect, while simultaneously supplying a firm foundation for medical practice" (Risse, 1992, p. 155). Thus, Enlightenment physicians viewed health and illness as the result of physical progressions and not as the outcome of magical or underlying forces operating in the natural world.

By 1798, Edward Jenner, English scientist and physician, developed a method of inoculation that provided immunity to smallpox (Bordley & Harvey, 1976). Epidemics of smallpox, caused by a highly virulent variola virus spread through close, face-to-face contact, were prevalent throughout the Middle Ages and the Enlightenment period. Jenner's inoculation methods were instrumental in the future development of vaccines for diseases such as anthrax (Constantin, Martinelli, Bonney, & Strickland, 2003).

Physicians during the Enlightenment, however, were hampered in implementing smallpox inoculation programs. The magico-religious beliefs that lingered in the Enlightenment continued to influence the views of health and illness of society.

[On one hand] the exclusively oral transmission of knowledge about inoculation and magico-religious explanation as disease-transference ...restricted [the] diffusion of the [inoculation] method...On the other hand, lower-class fatalism, fear of accidental contagion, and religious scruples based on the argument that the procedure attempted to interfere with God's work, were all barriers to its popularization. (Risse, 1992, p. 190-191)

The lack of knowledge concerning the transmission of smallpox as well as fear of the effects of inoculation caused individuals to resist immunization against the disease.

Furthermore, religious beliefs regarding the absolute authority of God to use affliction in the form of disease as proof of His involvement in the daily lives of men and women provided another barrier to the acceptance of inoculation for the prevention of smallpox. The Puritans viewed disease as punishment for sin:

If God sends disease as punishment, and if God can heal those diseases as a lesson in morals for the sufferer, the anti-inoculators seem to assume, then something is deeply wrong with using a new technology that circumvents God's role and precludes many persons obtaining inoculations from ever receiving God's chastisement. (Tindol, 2011, p. 1)

New England Puritan clergyman Cotton Mather was influential in bringing about the acceptance of the practice of inoculation and approval for smallpox inoculation programs in the North American colonies. Mather expressed the belief that the success of the smallpox inoculation programs depended upon the mercy of God and that man should learn from the lessons imparted from nature or from scientific discoveries. Mather exhorted physicians to prescribe Christian beliefs as well as drugs in order to help dispel the idea that smallpox was the result of God's vengeful wrath visited upon

mankind as punishment for sin. Mather was instrumental in helping individuals recognize the method of inoculation as a demonstration of medicine as a science (Burns, 1995).

The linkage of religion and medicine continued into the nineteenth century. The search for “miracle cures” brought about alternative healing movements founded upon the rejection of orthodox medicine in favor of alternative healing practices (Porter, 1997).

Many healing movements arose mirroring the myriad religious ...and socio-political groups which gained a following in an era of mass literacy.... Alternative healing sects were disparate – some were religious, others secular; some favored science, others folk wisdom; some glamorized the heroic prophet, others made every man his own doctor.... (Porter, 1997, pp. 389-390)

Healing movements in spiritual and non-mainline religious faiths increased in followers. The Christian Science movement, for example, supported the platform that illness existed only in the mind and the perception of illness and pain would be dispelled through the healing of the mind. In addition, the early Mormon religious movement voiced opposition to medical care by physicians. The Mormons accepted only roots and herbs for medicinal purposes and supported the right to forgo mandatory smallpox vaccinations (Porter, 1997).

The introduction of anesthesia during the nineteenth century brought the practice of medicine into conflict with religious beliefs regarding the role of divine providence in pain. Christian biblical literalists viewed pain as an inescapable God invoked curse visited upon humanity. Anesthesia, especially obstetrical anesthesia, was looked upon as a means employed by mankind to escape from a justified punishment (Pernick, 1985).

According to Pernick, "...pain was a righteous and deserved punishment for the existence of evil and therefore should not be anesthetized away" (p. 52). The suffering of pain was seen as a means by which an individual could atone for the sin that caused the illness. Physicians, on the other hand, feared that the elimination of pain would slow the healing process or even prevent it (Jonsen, 2000). By the end of the Civil War in 1865, however, the physician's dilemma regarding the use of anesthesia shifted away from pain and suffering viewed as punishment from God to the priority of alleviating the suffering of the patient and safety in the administration of anesthesia (Pernick, 1985).

The early decades of the twentieth century saw Protestant theology focused on moral issues directed toward personal morality and obedience to God's laws found in the Bible and carried out in the lives of white, middle-class Americans (Jonsen, 2000). Protestant clergymen supported the trend toward social and political reformation of society through Biblically based Christian beliefs.

By the mid-twentieth century, ethical reasoning and analysis of moral problems overshadowed the concerns regarding morality that religion held. The Catholic sponsored system of health care and hospitals expanded and continued to "provide Catholic physicians, nurses, clerics, and patients with guides to doctrinally correct thinking about issues in medicine" (Jonsen, 2000, p. 93). Although the literature reflected a particular religious view, the analysis of ethical problems appealed to a broad audience of individuals involved in health care regardless of religious affiliation.

Remnants of earlier magico-religious beliefs regarding the causes of sickness, disease, and the wrath of divine entities as punishment for sin can be traced into the

twentieth and twenty first centuries. According to Vaught (2009), "...throughout human history, natural disasters have been credited to supernatural origins... these phenomenon are disasters that could not have been foreseen or prevented" (pp. 408-409). In 2005, Hurricane Katrina devastated the city of New Orleans causing approximately \$2 billion in property damage and the loss of more than 1,000 lives. Hurricane Katrina was interpreted by various individuals and ministers of the Christian Church as God's wrath sent upon the inhabitants of New Orleans in order to destroy the city for sinful acts and wickedness. In 2009, auxiliary Catholic bishop Gerhard Wagner stated the belief that the devastation in New Orleans caused by Hurricane Katrina was a result of God's retribution brought about by acceptance and tolerance of homosexuality (Tran, 2009). Another example of continued magico-religious beliefs in the twentieth and twenty-first centuries is the reported assertion by evangelist Pat Robertson that the 2010 CE Haitian earthquake was the result of a pact made with the devil in order to gain freedom from French rule (Grossman, 2010).

Medical Education

"Medical education is never a finished commodity; it is always changing and evolving" (Ludmerer, 1985, p.260). No medical school down through the ages felt that an ideal curriculum was reached. Furthermore, an effective curriculum in a particular era for one medical educational institution might not be viable for another medical institution.

Physicians in early Mesopotamia (ca. 3100 BCE) were educated in schools taught by temple priests. Clay tablets served as the physician's textbooks and contained

descriptions of illnesses, prescriptions, and treatment therapies (Amundsen & Ferngren, 1995; Biggs, 2000; Reiner, 1964; Spiegel & Springer, 1997). Mesopotamian physicians received medical education and practical medical experience through apprenticeships with other physicians. In addition, physicians were required to keep medical records of patient illnesses, therapies and treatment results (Spiegel & Springer, 1997).

Early forms of ancient Greek medicine and practices are referenced in the Homeric epics (ca. 850 BCE) and included herbal medicine and primitive surgery (Gutek, 1995). Frölich, (1879) reported that Homer had authored the *Iliad* while serving as deputy chief of the medical staff with Agamemnon's army prior to Troy. The portrayal of the physician in the *Iliad* is presented from a physician's point of view (Frölich, 1879; Nutton, 2004). The physician in the *Iliad* is depicted as a warrior called out from among the army in order to remove an arrow from a wounded warrior and treat the wound. The physician in the *Odyssey* is seen as invoking incantations as a form in order to treat a bleeding wound (Homer, trans. 1924). Early physicians were identified with Greek deities who gave them the status to treat the sick. The early physicians learned through the medium of experimentation and treatment (Bullough, 1966). The concept that the art and teaching of healing was passed down through successive generations in families is alluded to in the *Iliad* as Machaon was referred to as a healer like his father, the demi-god, Asclepius. Although early Greek "healers" possessed information about herbs, first aid and primitive surgical procedures there is a lack of evidence to support the view that early Greek medicine existed as a discipline (Nutton, 1992).

Greek schools of medicine were known to exist as early as the fifth century BCE. According to Bullough (1966), “Greek medicine developed training schools to institutionalize medical learning, to maintain the intellectual lineage so necessary for the development of a profession” (p. 15). The schools of medicine were established at Cnidus in southwest Asia Minor, Crotona in Sicily, Rhodes, Cyrene, and Cos located on the island of Cos. The Cnidus school concentrated on the diagnosis of disease. The Crotona school practiced anatomical dissection and supported the Pythagorean philosophy, as did the school at Cos, which viewed health as a state of equilibrium or harmony and illness a result of disorder or upset (Bullough, 1966; Porter, 1997).

Hippocrates (ca. 460-377 BCE) rejected the idea that illness was the result of religious or divine intervention and based his teaching on empirical observation and logical reasoning. Hippocrates viewed wellness as a natural process influenced by the climate, diet, and lifestyle. Illness was seen as a result of an imbalance in bodily fluids referenced as the four humors: blood, phlegm, yellow bile, and dark bile. Hippocrates taught students to diagnose and treat patients by the empiric method.

Students using the empiric method were taught to obtain the patient’s past history, observe the signs and symptoms of a patient’s illness, and diagnose patient complaints. Students were responsible for rendering a prognosis of the patient’s condition based upon naturalistic observations (Woodward, 1989). Students gained practical medical experience by means of apprenticeship agreements between the students and practicing physicians (Porter, 1997; Risse, 1999).

The *Hippocratic Corpus* (ca. 420-350 BCE) is a collection of more than 70 treatises that were written for different audiences and was varied in content, purpose, and authorship. Several treatises offered students of medicine instruction in areas such as diagnosis, treatment, prognosis, and palliative care as well as information regarding the nature, course, and methods of healing (Jonsen, 2000; Nutton, 2004). The *Corpus* also presented students with ethical instructions concerning the physician's role in the physician-patient relationship to "help and do no harm" in the diagnosis and treatment of patients (Jonsen, 2000, p. 2; MacKinney, L., 2003, p. 27). Nutton (2004) summed up the value of the *Corpus* in light of the education of medical students: "...certainly from the early third century BCE onwards, the *Hippocratic Corpus* came to be seen as a standard against which other types of healing might be measured, and then approved or rejected" (p. 71).

Galen of Pergamum (131CE-200 CE), a prominent Roman physician, scientist, and philosopher, preserved and supported the teachings of the Hippocratic theory of humors (Guthrie, 1940; Jonsen, 2000). Galen authored several treatises in the areas of anatomy and physiology, pathology, pharmacology, and neurology which influenced the education and practice of medicine until the beginning of the Renaissance.

Galen's efforts to bring together Hippocratic teachings and Roman medicine resulted in physicians who would practice medicine as learned physicians serving as personal attendants to their patients (Porter, 1997). Regarding teaching medical ethics, Bullough (1966) states "There had been attempts to promulgate ethical codes [in medical teaching], but there is no evidence that adherence to them was...widespread" (p. 31).

Students entered into a mentoring relationship with a practicing physician and accompanied physicians on their rounds as they visited patients in their homes. Galen advocated and practiced the visit of patients in their homes. There were no institutions of higher learning for the teaching of medicine and the practice of Roman medicine did not require the licensure of medical practitioners (Nutton, 1992).

Porter (1997), states that “Galen took clinical Hippocratic medicine and set it within a wider anatomo-physiological framework” (p. 77). Because human dissection was viewed as an unacceptable practice in Roman culture, Galen performed dissections on animals and applied his findings to the human anatomy. Galen combined his observations of animal dissections with speculations about the inaccessible human body structures. Differences in animal and human anatomy caused errors in various areas of Galen’s interpretation and explanation of the human anatomical system. However, Galen’s somewhat flawed explanation of the human anatomical structure, led to a rational basis for future scientific experimentation and inquiry (Nutton, 2004).

During the early Middle Ages, Church monasteries became “centers of scholarly theological study” which included the study of medicine within the curriculum of liberal arts. The monasteries served as repositories that preserved the ancient theological and medical texts that constituted the foundation of medicine as a discipline (Gutek, 1995; Park, 1992). Most of the classical medical texts existed only in the Greek language and only limited Latin versions of medical texts were available for study.

The only way in which the clerical practitioner of the early medieval period could become something more than an amateur physician was to devote more of his time to the study and practice of medicine... The only place in which medicine could actually be studied in any detailed way during this period [early Mid-

dle Ages] was in those few monasteries where the classical treatises on the subject were preserved. (Bullough, 1966, p. 36)

The main treatises available in Latin included limited works by Hippocrates, Galen, and Caelius Aurelianus.

The Roman statesman, writer, and Benedictine monk, Cassiodorus (ca. 487 CE-583 CE), supported the belief that monks should be able to read medical texts that would provide the foundation for the practice of medicine. Following the fall of the Roman Empire in the 5th century CE, much of the recorded Greek medical knowledge remained inaccessible. Although early medieval monastic monks practiced medicine, they often did not possess the literacy skills needed to translate Greek texts into Latin. Therefore, much of the recorded Greek medical knowledge remained inaccessible to the monastic monks. To counter of the relative inaccessibility of medical texts, Cassiodorus created a monastic school in the 6th century CE that helped develop the monks' literacy skills and advance their understanding of the practice of medicine (Bullough, 1966; Nutton, 2004; Risse, 1999).

Cassiodorus authored two documents that outlined the responsibilities of both secular and monk-physicians. The first document, *Institutiones* provided inspirational and instructional guidance for monks caring for the sick (Jones, 1945; Reich, 1995). In the second document, *Variae*, Cassiodorus outlined the responsibilities of the secular physician.

The rule of Charlemagne, King of the Franks (768 CE) and Roman Emperor (800 CE-814 CE), brought about an era of educational and cultural renewal, referred to as the Carolingian Renaissance (Gutek, 1995). Charlemagne mandated the inclusion of medi-

cine in the existing quadrivium, or curriculum, of the monastic and cathedral schools. Students were expected to complete studies in the liberal arts before entering into the study of medicine. Although the study of medicine was included in the curriculum of the cathedral and monastic schools “...they did little to increase medical knowledge.... The students, however, lacked anatomical knowledge and tended not to know the difference between a disease and its symptoms” (Brittain, 1966; Bullough, 1966, pp. 39-40; Parks, 1992). The inclusion of medicine in the monastic and cathedral schools, however, provided the basis for the future study of medicine as a profession at the university level. Throughout the rule of Charlemagne, monasteries continued to be primary sites for the study and translation of classical medical texts. Monks produce their own collections of texts that contained information concerning antidotes and herbal treatments as well as works on simple medical procedures (Parks, 1992).

MacKinney (1952) provides a comprehensive text of a medical ethics of literature in the Middle Ages. In his article, *Medical Ethics and Etiquette in the Early Middle Ages*, MacKinney cited the Bamberg MS III 8 manuscript. In this manuscript, the literature of the early Middle Ages regarding medical ethics reflected the ideals of the Hippocratic teachings and Christian idealism. One example of the monastic ideal of medicine was found in the introduction to a medical manuscript (Bamberg MS L III 8) and thought to be compiled in a German monastery in the eighth century CE. The manuscript (Bamberg MS, treatise K) which also contained writings of Cassiodorus, stated the chief points of the Hippocratic Oath and served as a guide to the ethics of the physician in the physician-patient relationship (p. 5).

Another example of monastic medical literature is found in a ninth century CE manuscript compiled in Luxemberg, France. The manuscript contained brief treatises that included a commentary on Hippocrates' *Aphorisms* (a book on various medical subjects) and several treatises thought to be authored by Hippocrates and Galen. The treatises in the manuscript addressed subjects such as the medical training of students, ethics of practice, and the professional demeanor of the physician toward patients (MacKinney, 1952, p. 6). In addition, a twelfth-century treatise from a Salernitan manuscript (Breslau 1302), contained references to Hippocratic teachings, Christian idealism and a treatise attributed to Constantinus Africanus (ca. 1100 CE) (prologue to Book I *Liber Pantegni*). The treatise provided information regarding ethics and etiquette of the student of medicine toward the patient (p. 26-27).

Hildegard of Bingen (1098 CE-1179 CE), abbess of Rupertsberg practiced medicine and wrote medical texts. Hildegard authored nine books, two of which offered medical and pharmaceutical advice. *Liber simplicis medicinae* [Book of Simple Medicine] described the healing properties of herbs, vegetables, and minerals and *Causae et curae* outlined the natural causes of diseases (Porter, 1997; Sweet, 1999). Hildegard's writings allowed nuns engaged in the art of caring for the ill to attain the same level of medical knowledge and proficiency as the monastic or clerical physicians.

The high and late Middle Ages (1050 CE-1545 CE) saw a decrease in the practice of medicine by monks and clerics and a movement toward medical care rendered by secular physicians (Park, 1992). Most monasteries continued to provide care to their members and the destitute. Leaders of the Catholic Church became concerned that the

clergy would seek financial gain from the practice of medicine and abandon their foremost responsibility of service to the church (Park, 1992; Silverman, 2002). Laws were passed that prohibited the clergy from attending institutions outside of the monasteries to study of medicine although the practice of medicine by the clergy was not forbidden (Amundsen, 1978, Veatch, 2005).

In the tenth and eleventh centuries, the educational institution at Salerno served as a medical school. Salerno was chartered as a university in 1231. The University at Salerno, in conjunction with the Benedictine monastery at Montecassino, became a center of theoretical learning founded on Greek and Roman medical texts (Gutek, 1995; Park, 1992).

The curriculum of medieval higher education consisted of the core liberal arts and sciences, which were foundational to the professional studies of theology, law, and medicine (Park, 1992; p. 112).

By the beginning of the thirteenth century, three other Universities contained schools of medicine: Montpellier (France); Bologna (Italy), and Paris (France).

Efforts to develop as well as enhance medical school curriculum were undertaken by individuals such as scholar and Benedictine monk Constantinus Africanus (ca. 1020-87). Africanus, one of the original founders of the medical school at Salerno, "...fostered the translation and transmission of the Greek and Arabic medical classics throughout medieval Europe" (Osler, 1920, p. 62). Africanus translated many Arabic medical manuscripts into Latin that included manuscripts treatises of Hippocrates and Galen (Gutek, 1995, p. 99). Jonsen (2000) further states, "The medical literature produced in the world of the [early Medieval] universities were principally commentaries

on the newly translated medical authorities of the past...” (p. 23). The increased ability to translate ancient Latin works of medical scholarship “...scholarship of scholastic theology, which framed problems in terms of logically structured *quaestiones* supported by evidence and authority allowed [students] to evaluate arguments, criticize opinions, and proffer original views in a systematic fashion” (pp. 22-23).

In 1231 CE, Frederick II, King of Sicily, enacted legislation that required students to be examined by the masters at the newly chartered University of Salerno medical school prior to licensure as a physician.

Medicine became a university subject equal to theology and law, and acquired a set of standard topics and often cited authorities, a formal mode of exposition, and the inevitable examinations leading to degrees. In this way, literate medicine became scholarly medicine and orthodoxies congealed around the scholarship. (Jonsen, 2000, p. 23)

The Salerno medical curriculum was framed within a broad background of liberal-arts education which included three years of logic followed by five years of medical instruction, and one year of medical practice under the supervision of a physician (Amundsen, 1995b, p. 1526; Bullough, 1966, p. 50). After examination and licensure, physicians were required to visit their patients in the morning and evening, serve the poor with kindness, follow the regulations enacted by the government, and determine fees according to distances traveled to treat patients (Amundsen 1995b, p. 1526). By the end of the Middle Ages, the physicians considered most qualified to practice medicine were those who held a university medical degree granted by the masters at Salerno (Gutek, 1995; Amundsen, 1995b).

The Renaissance and Enlightenment (1400-1800) ushered in changes in the practice and focus of medicine. “The number of university-educated physicians rose considerably, as did the number of other formally trained (usually apprenticed) practitioners. With the proliferation of schooling, the educational level of many ordinary practitioners rose” (Cook, 1995, p. 1537). Physicians viewed health as a natural state of the human body which could be maintained, while illness was seen as an abnormal state that might be prevented.

Thus Enlightenment physicians followed in the tradition established since Greek antiquity: elaborate a rational theory of medicine which could provide comprehensive explanations of disease causation and effect, while simultaneously supplying a firm foundation for medical practice.... physicians... searched for simple and general laws [or systems] pertaining to the functions of living beings in health and sickness general laws. (Risse, 1992, p. 155)

Physicians began to create a theoretical framework utilizing deduction in order to explore rational and logical explanations of wellness and disease processes (Risse, 1992, pp. 155-156). Thus, physicians began to explain diseases by looking at the signs and symptoms associated with disease processes in order to identify and distinguish between specific diseases. European universities such as Edinburgh (Scotland), Montpellier (France), Halle (Germany), and Leiden (Netherlands) began to offer medical students lectures regarding the process of deduction within a theoretical framework (p. 156).

The two earliest schools of medicine established in Colonial North America were the medical department at the College of Philadelphia (1765) and the medical school at King’s College in New York City (1769). There were no formal requirements for admission to either of the medical colleges. In order to complete the doctor’s degree in Philadelphia a candidate must have completed three years of an apprenticeship with a

trustworthy physician, hold a bachelor's degree in an area of liberal arts, mathematics, or history, possess a working knowledge of the Latin Language, and publish and defend a theses. Required medical curriculum included the successful completion of basic science courses. Students were also required to attend to patients in the hospital under the supervision of a practicing physician. The College of Philadelphia closed in 1779 and eventually united with the University of Pennsylvania in 1791 (Bordley, 1976; Stookey, 1964).

Graduation requirements for the King's College Medical School included at least three years of study and, having attended at least one course of lectures taught by each professor in the college. Required medical curriculum included basic science courses and students were required to possess a working knowledge of natural philosophy and the Latin language (Bordley, 1976; Stookey, 1964). In addition, the Harvard Medical School opened in 1783 and graduated the first medical school class, which consisted of two students, in 1788.

The practice of medicine began to include the exploration of “curative and preventative medicine through scientific trials” (Cook, 1995, p. 1541). The rise of medical and scientific experimentation, or learning from experience began to focus on questions regarding the most effective form of treatment rather than on the decorum or character of the ethical or qualified physician. For example, medical research and experiments carried out by English general practitioner Edward Jenner resulted in the practice of vaccination to prevent smallpox. A rudimentary clinical trial carried out by Scottish physician James Lind resulted in the discovery of the effectiveness of citrus fruits in the pre-

vention of scurvy. The early research and clinical trials by physicians and scientists helped to establish the value of medical and scientific experimentation and discovery in the practice of medicine (Cook, 1995; Porter & Porter, 1989).

Another change in the practice and focus of medicine during the Enlightenment was the shift of hospitals from establishments for care of the indigent and homeless to institutions for the care of the sick (Copeman, 1965). Prior to this shift, physicians possessed only a limited view of the patient's medical condition and lacked adequate means for supervision and follow up of treatment regimens throughout the course of illness. The hospital setting allowed physicians to have greater control over the care and treatment of the patient. "This shift of power in the doctor-patient relationship allowed for more continuity of observation and care as well as compliance with the prescribed therapeutic regimen" (Risse, 1992, p. 185).

In addition, hospitals provided opportunities for the clinical education of medical students. The medical student's practical training in the care and treatment of patients had usually been accomplished by observation in the patient's home under the supervision of a practicing physician. The hospital venue, however, allowed students to observe and describe a patient's course of illness within a controlled setting (Copeman, 1965).

At the beginning of nineteenth century, the population of the United States exceeded seven million.

To serve this population there were only three public general hospitals: the Pennsylvania Hospital in Philadelphia, the New York Hospital in New York City, and the Charity Hospital in New Orleans. Though none of these hospitals was under the control of a medical school, all were used to a limited degree for clinical teaching... [Therefore], the loss of physicians during the Revolutionary War, combined with the lack of new [medical school] graduates during that period,

created a serious shortage of [medical] practitioners to care for the growing population. By 1810, five medical schools existed in the United States with an enrollment of approximately 650 students. The University of Pennsylvania was attended by 406 of the 650 medical students. (Bordley & Harvey, 1976, p.p. 15-16)

By 1830 approximately twenty medical schools existed in the United States (Burns, 1995). Although the growth in the number of medical schools continued and the number of physicians graduating from medical colleges increased, the number of physicians needed to attend to the medical needs of the growing population remained insufficient.

Between 1810 and 1840, twenty-six new medical schools were established in the United States. The aggregate enrollment of medical school students was approximately 2,500, and about 800 were graduated receiving the MD degree (Davis, 1877). Because of the continued population growth, various types of medical schools were established in order to meet the demand for physicians. Early nineteenth century medical education in the United States was primarily delivered by one of three systems: the apprenticeship system in which students participated in hands-on training taught by local physicians; the proprietary system in which students attended lectures by physicians who owned the medical school; or the university-affiliated school and hospital system which offered both didactic and clinical instruction. Within these three systems existed various types of medical schools that included chiropractic, physiomedical, botanical, homeopathic, eclectic, osteopathic, and Thomsonian (Beck, 2004; Halperin, Pearman, & Wilson, 2010).

Early systems of medical education lacked standardized curriculum and courses. Many medical practitioners had little education or formal medical training (Ludmere, 2010; Pernick, 1985; Veatch, 2005). There were no standard entrance requirements

among medical schools. Students were not required to hold a high school degree, complete prerequisite course work, or pass qualifying exams before acceptance into medical school (Bordley & Harvey, 1976; Halperin, Perman, & Wilson, 2010). The usual medical curriculum for non-university related medical schools typically consisted of two 16-week periods of lectures with the second lecture period taught as a repeat of the previous lecture period (Ludmerer, 2010).

As early as 1811, Benjamin Rush, a graduate of Edinburgh University and Professor of the Institutes of Medicine (i.e., physiology and pathology) and of Clinical Medicine at the University of Pennsylvania, called attention to the inadequacies in medical education in the United States. Rush reported that three-fourths of medical school graduates were unqualified to practice medicine. Rush further pointed out that less than one-half of the graduates of the medical school at the University of Pennsylvania were competent to practice medicine (Bordley, & Harvey, 1976, p. 18). Rush called for more rigorous medical school entrance requirements, regularly scheduled periods of bedside instruction, and an increased length of study from two years to three years. Other medical educators also advocated revisions in the delivery systems of medical education. In 1838, medical educator Daniel Drake recommended an increase in the medical school year from four to five months, a gradual advancement in the curriculum from the basic sciences to the clinical characteristics of the sick, and at least four years of medical school curriculum and instruction prior to graduation (Bordley & Harvey, 1976). Attempts by medical schools, such as Yale (1827), to implement higher admission and

graduation requirements resulted in decreased enrollment and increased financial obligations which ended further attempts at change in medical education (p. 20).

Medical licensure was not required in order to practice medicine and there was no ruling body to oversee the enforcement of medical licensure. “A medical college diploma, virtually regardless of where it was from, was a license to practice” (Burns, 1995, p. 1611). Although Congress did not take an active role in medical licensing or licensing enforcement, legislators granted licensing privileges to medical societies in various states and to physician boards in other states. “Since possession of a medical degree [diploma] was sufficient for licensing in many states, there seemed to be little need for sustaining separate powers for societies or boards” (Burns, 1995, p. 1611). The American Medical Association (AMA), established in 1847, acknowledged the licensure of physicians by medical boards but did not provide specific guidelines for the regulation and enforcement of physician licensure (Leake, 1927). Licensing requirements were either repealed or simply ignored.

During the first half of the nineteenth century, the American culture...experienced an outburst of religious pluralism, the populist effects of expansion to the West, an economic atmosphere of laissez-faire, and widespread opposition to centralized regulation by governmental authorities. These conditions fostered the lack of interest in licensure law (Burns, 1995, p. 1611).

The absence of required licensure resulted in a lack of consistency regarding physician training and proficiency and failed to provide the public with a consistent standard by which to judge physician competency in the practice of medicine.

Medical ethics during the nineteenth century did not appear in the curriculum of medical schools. In 1839, Thomas D. Mitchell, chair of the department of material

medica and therapeutics at Transylvania University in Lexington, Kentucky, purported that the absence of medical ethics in the curriculum was due to neglect:

...teachers in our schools of medicine, who seemed to have regarded the principles of Medical Ethics as too trivial to merit their attention, or so entirely self-evident, as to incorporate by necessity with the usual teaching of the schools. (Lexington, p. 6)

Physicians during this era did not see a need to incorporate medical ethics into medical school curriculum. Physicians presumed that it was adequate for practicing physicians to understand and adhere to the codes of medical ethics supported by various medical associations and societies such as the one adopted by the Medico-Chirurgical Society of Baltimore (1832), the College of Physicians of Philadelphia (1843), or the AMA (1847). In 1855 the AMA required that all state and local medical societies adopt its code of ethics as a prerequisite to membership in the AMA (Burns, 1995, p. 1613). By 1861, however, the AMA code of ethics remained unheeded by physicians and medical societies alike.

In 1861, Stephen Smith, MD editor of the *American Medical Times* authored an editorial that stated there were no medical lectures delivered on medical ethics in medical schools:

We have never heard of any dissertations being read as part of the curriculum instruction...it would take no large amount of time, nor make any serious interruption in the course of medical studies, to have one lecture a week on the subject of professional medical ethics...There are gentlemen in and out of our medical faculties...who would be willing to instruct students in...that code of medical ethics.... (1861, pp. 82-83)

Smith, having identified the absence of medical ethics teaching in the current medical curriculum challenged medical faculty to incorporate medical ethics into the medical school curriculum.

The need for reformation in medical education continued beyond the end of the Civil War (1861-1865). Ludmerer (1999) described the state of medical education:

...it did not take much hard work to become a doctor in America. Entrance requirements to medical school were nonexistent, other than the ability to pay the fees. Courses were superficial and brief. The typical path to a medical degree consisted of two 16-week terms of lectures, the second term repeating the material of the first. Instruction was almost wholly didactic, consisting of lectures and textbook reading. Laboratory work in the scientific subjects and student participation in patient care in the clinical courses were not to be found. Medical school faculties were, tiny, typically numbering seven or eight. The instructors owned the schools and operated them for profit [proprietary schools]. (p. 4)

Although inadequacies existed in medical school education in the United States, attempts to change the delivery methods of medical school curriculum and instruction were usually either short-lived or ineffective.

The need for change in the delivery of medical education was recognized by various medical schools as the United States began to recover from the devastation of the Civil War. In 1871, Harvard Medical School extended the medical curriculum from 8 months to 27 months. The University of Pennsylvania, in 1877, and the University of Michigan, in 1880, also extended their respective medical school programs to a three-year curriculum and established hospitals under university control that served as institutions of clinical instructions for medical students (Bordley & Harvey, 1976). In 1889 the Johns Hopkins Hospital opened.

In 1889, the Johns Hopkins University School of Medicine opened, immediately becoming the model by which all other medical schools were measured. There, a

college degree was required for admission, a four-year curriculum with nine-month terms was adopted, classes were small, students were frequently tested, the laboratory and the clerkship were primary teaching devices, and a brilliant medical faculty made medical research as well as medical teaching part of its mission. (Ludmerer, 2010, p. 193)

Johns Hopkins became the prototype for the development of medical reform. Class sizes were small. For example, the 1893 enrollment totaled 17 and included 3 women. The first two years of the curriculum consisted of classroom teaching by full-time salaried faculty, followed by the two years in the hospital. Under the leadership of physician William Osler (Johns Hopkins, 1889-1904), the third year the students worked in the dispensary. The fourth-year were on the wards and took an active role in the care and management of patients (Bordley & Harvey, 1976).

The focus of medical education following the end of the Civil War began to shift from an emphasis on teaching to the development of students skilled in critical thinking and problem solving, self-education, and learning by doing (Ludmerer, 1999). Medical schools began to add required scientific courses as well as teaching and research laboratories to the curriculum. The concept of learning by doing was found in the introduction of laboratories and clinical clerkships that allowed students to become active participants in the educational process instead of passive observers (Ludmerer, 1999).

Furthermore, scientific knowledge gained through research could be applied to the treatment of the sick and utilized in disease prevention. “As the medicine of the nineteenth century absorbed the advances in physiology, pathology, and bacteriology and learned to use the numerical [statistical] method to evaluate the results of treatment, knowledge and skill became more measurable” (Jonsen, 2000, p.86). Physicians,

through the employment of scientific medicine and clinical trials, were provided with information for “calculating the comparative results of treatment and nontreatment” for the patient (p. 83). Armed with this new information, physicians became responsible for rendering diagnoses and courses of treatment based upon scientific choices regarding risk vs. benefit of treatment for the patient.

One of the most important changes in the latter years of the nineteenth century was the shift from the care of the patient in the home to care of the patient in the hospital setting (Burns, 1995). The shift of medical care to the hospital setting “... involved the transformation of the hospital into a powerful institution that incorporated the moral values of religious charity, scientific excellence, specialized patient care, and social justice” (p. 1614). Furthermore, as clinical science moved toward recognition as a learned discipline, the hospital environment had the potential to provide clinical departments and medical students with patients and laboratories in which to carry out their research investigations of disease and treatment effectiveness. Hospital administrators, however, were hesitant to welcome medical education and research into the hospital setting.

They [hospital administrators] saw their mission as patient care, not medical education and research. They vigorously protected their independence and their patients from any disruptions and inconveniences that might arise from having students set loose on the wards. Hospitals condoned clinical education as long as that education involved passive learning and tight control of student activity. (Ludmerer, 1999, p. 18)

The lack of hospital support and involvement was generally viewed as a great deficiency in medical education. Ludmerer (1999) summed up the role of the hospital in medical education as he stated, “For the modern medical school to do its work, it needed to control strong teaching hospitals deeply rooted in university medicine” (p. 18).

Charles Eliot, President of Harvard College (1869-1909), summed up the state of the medical profession and education system in the latter half of the nineteenth century:

The whole system of medical education in this country needs thorough reform (Eliot, 1869-70, p. 18). The ignorance and general incompetency of the average graduate of American medical schools...is something horrible to contemplate. The mistakes of a young physician [can] mean failure to save a life or health which might have been saved. (Eliot, 1871-1872, pp. 25-26)

The strongest opposition to raising the standards of medical education came from physicians who either owned or had a monetary interest in the proprietary or apprentice systems of educating students. Raising either the entrance requirements or curriculum standards would exclude many unqualified applicants. Thus, decrease revenue and resulting in closure of the schools. Toward the end of the nineteenth century the enrollment in the apprentice and proprietary systems declined as the university medical school became the model for excellence in medical education (Bordley & Harvey, 1976).

At the opening of the twentieth century hospitals continued to play an important role in medical education due to the advancements of medical research and technology. The shift from patient care in the home to patient care in the hospital setting that began in the late nineteenth century continued into the early years of the twentieth century.

Moreover, the long duration of hospital stays (average stay in 1900, two to three weeks), lack of life-sustaining technologic equipment, and strong reliance on bedside observations in managing patients resulted in an outstanding opportunity for students. They could follow the natural history of disease, learn principles of therapy, develop personal relationships with patients and families, and make real contributions to patient care. The educational system was well suited to medical practice of the era and provided students a nearly ideal introduction to the life of a physician. (Ludmerer, 1999, p. 24)

The ongoing growth of scientific and technological advances in physiology, pathology, and bacteriology contributed to the increased use of hospitalization and growth of physician specialization that began in the previous century (Porter, 1997).

Despite the advances in medicine and science that occurred toward the end of the nineteenth century, medical education lacked rigorous academic standards and did not require students to possess an undergraduate background in the sciences as a prerequisite for admission to medical school. In 1908, the Carnegie Foundation for the Advancement of Teaching commissioned Abraham Flexner to conduct a study of medical education in North America. The purpose of the study centered on the reform of medical education, the establishment of scientific rigor, and excellence in the preparation of physicians to practice medicine (Flexner, 1910b; Irby, Cooke, & O'Brien, 2010). The tenets of early twentieth century and future academic medicine were shaped by the results of Flexner's seminal report.

In 1910, Flexner published the results of his study of medical education in the document titled *Medical Education in the United States and Canada: A report to the Carnegie Foundation for the Advancement of Teaching* (Flexner, 1910a). Flexner said that the key to medical education reform in the United States was a curriculum based in science and recommended a plan for reform based on the German university system of medical education and the Johns Hopkins medical school model (Flexner, 1910b; Elbert, 1977; Kravetz, 2006). In the decade following the release of Flexner's report, 46 of the 155 medical schools in the United States closed or merged with other schools (Irby,

Cooke, & O'Brien; 2010; Porter, 1997). Flexner's report promoted changes in the standards for medical education and reform in the curriculum of medical education.

Largely as a result of Flexner's recommendations, the scientifically oriented, university-based medical school and teaching hospital became the standard by the start of World War I. By 1920, most states had established physician licensure laws (Baker, 1984). Students admitted to medical school in the 1920s - 1930s were required to possess a background at the undergraduate level in science as well as courses in English, mathematics, and a foreign language (Ludmerer, 1999). The completion of courses in the sciences at the undergraduate level allowed the medical school curriculum to concentrate exclusively on medical subjects.

A major focus in medical education between World War I and World War II was the teaching of medical students. The integration of education, research, and patient care was a major objective of all levels of medical school faculty and resulted in the successful teaching of medical students.

Teaching was taken seriously by everyone...Even the most senior faculty members were routinely present in student laboratories and clinics, and they knew the students well... To most faculty members of the era—even the most productive scientific investigators—the teaching of medical students came first...In the clinical departments, faculty members were also heavily involved in teaching. Even departmental chairmen made daily rounds, conducted medical histories, performed physical examinations, made diagnostic and therapeutic decisions, and discussed cases—all under the eyes of physicians in training (Ludmerer, 1999, pp. 28-29).

Medical faculty served as role models both in the pre-clinical and graduate levels of medical training. Within this context, it appeared that Flexner's recommendation of the

integration of classroom learning with practical, clinical patient care at the bedside was a viable system for the education of medical students (Irby, Cooke, & O'Brien, 2010).

The pre-clinical medical school curriculum of the years between the World Wars was taught in a block system. Courses were arranged in an order that allowed each course to build upon the material taught in previous courses. The pre-clinical curriculum included basic science courses and introductory history-taking and physical examination courses. Courses in the latter two years consisted of clerkships, research and laboratory experiences, and discussion groups so that students might participate in the active learning process in order to obtain information and learn to solve problems (Ludmerer, 1999).

Admission criteria varied among medical schools. Letters of recommendation, college course grades, types of college courses completed, student and faculty interviews, and, in some instances, influence by alumni family members were criteria utilized in the medical school admissions process. The Medical Specialty Aptitude Test was a screening tool used by some medical school admissions boards as a predictor of student academic success (Bordley & Harvey, 1976, p. 414). Those discriminated against in medical school admission included African-Americans, women, and older students while students who could afford tuition were given preference for admission (Ludmerer, 1999, pp. 62-63).

Medical research between the World Wars continued to grow at a slow and steady pace. Medical school faculty remained committed to teaching as their highest priority. Research in the medical school setting continued to be viewed as a tool for teaching students. The areas of research, teaching, and patient care were integrated within the

medical education curriculum. The preclinical curriculum allowed students to encounter and master difficult research techniques within the standard laboratory. The integration between the three areas of the curriculum was possible because the faculty taught students what they were investigating (Ludmerer, 2003).

As the United States entered World War II in late 1941, medical schools became responsible for the medical care of both civilians and members of the armed forces. The onset of the war brought about a rise in the number of physicians needed to supply medical care for both military personnel and civilians. The enlistment of eligible faculty members into the military service left medical schools short-staffed. In order to meet the demand for increased numbers of physicians, students were accepted into medical school with only two years of college preparation. The curriculum was taught at an accelerated pace without a decrease in core course content while elective courses were eliminated and lectures often took the place of laboratory and clinical experience. In addition, military-oriented topics such as tropical diseases, trauma surgery, first aid, public health, and venereal diseases were added to the curriculum (Bordley & Harvey, 1976; Ludmerer, 1999). In graduate medical education, internships were reduced to nine months and residencies requirements were reduced from three years to eighteen months.

After World War II ended in 1945, it took several years for medical schools to resume a normal schedule of operations. Following the end of the war, the four-year curriculum was reinstated and faculty returned to teaching and research. Although the acceleration of the curriculum during the war resulted in an increase of physicians graduated, the accelerated curriculum “made it much more difficult for students to reflect,

assimilate material, and develop reasoning skills, problem-solving capacity, and independence” (Ludmerer, 1999, p. 131). Medical faculty, unlike the military, felt that the quality of medical education was compromised during the years of the accelerated programs.

In the 1950s and 1960s the principal source of financial support for medical education and research in science was from the federal government. Federal research grants paid research expenses and covered salaries for the percentage of time spent in research. “By the 1950s many [medical] schools were spending more money on research than on all other activities combined” (Ludmere, 1999, p. 143). Faculty who initially focused on teaching medical students began to focus on the training of graduate students who could appreciate and become involved in research projects. Ludmerer (2003) summed up the state of the preclinical medical curriculum as “... research acquired an independent quality, no longer requiring the presence and stimulation of medical students” (p. 243). It became increasingly difficult to connect pre-clinical basic science curriculum with the graduate research-based clinical teaching curriculum.

The pre-medical requirements regarding the education of undergraduate medical students remained relatively unchanged from before World War II (Baraznsky, 1992). The standard medical school curriculum continued in the form of two years of preclinical basic sciences followed by two years of clinical clerkships. One notable change in the pre-clinical curriculum was that the scientific courses were taught, at least in part, by PhD’s and not MDs, as in previous decades. Ludmerer (1985) described the shift to pre-

clinical science curriculum taught by PhDs as "... [teaching] focused on fundamental scientific concepts that seldom drew clinical correlations" (Ludmerer, 1985, p. 262).

In 1945, the Council of the American Medical Association (CAMA) recommended that 100 hours of theoretical instruction should be added to the medical school curriculum through conferences or lectures. The additional hours of instruction would include medical courses such as history, statistics, indexes, medico-legal, securing and preserving, and medical ethics (JAMA, 1945, p. 464). The delivery of medical ethics course instruction varied in content, course length, and methods of teaching among medical schools.

The medical curricula of the late 1950s and 1960s encompassed the basic sciences but gave little attention to offering a broader base of exposure to topics such as preventive and occupational medicine, public health issues, and the doctor-patient relationship. Ludmere (1999) assessed the state of undergraduate medical education in the 1950s-1960s.

Everywhere, the same educational ideals—the importance of active learning, of understanding rather than memorizing, and of active learning, and of developing problem-solving skills—were continually professed, yet everywhere complaints could be found that these ideals were not being realized (p. 202).

The continued expansion of medical and research knowledge left medical educators to struggle with the problem identified by Flexner earlier in the century, of moving students away from a didactic, rote memorization method of learning information to helping them to develop the learning skills of reasoning and analytical thinking.

In the 1970s, medical educators were confronted with a continually expanding body of medical knowledge and scientific research that had to be taught within a four

year curriculum. Moreover, faculty-driven research took priority over teaching. Students experienced a decrease in clinical time and one-to-one interaction with faculty. Medical schools introduced problem-based learning (PBL) into the curriculum as an instructional method in the basic science courses in order to help student's master self-directed, life-long critical thinking and learning skills that would enable students to recognize and assess problems and resolve or manage problem (Davis & Harden, 1999; Graffam, 2007). The process of PBL focused on learning through the use of patient problems as a means of introducing basic course concepts rather than on faculty lectures and the memorization of factual knowledge (Kendall & Reader, 1988). Faculty, however, found that PBL did not provide students with sufficient knowledge of the core curriculum (Davis & Harden, 1999).

The 1990s and the first decade of the 21st century engaged in the delivery of medical education through the process of active learning. Active learning provides students with an opportunity to gain a deeper understanding and retention of course content material. The trend toward active learning in the four year medical school curriculum "combines engagement and observing with reflective experiences. Students perform or observe a certain activity, and then they reflect on the way that experience has activated specific learning patterns" (Graffam, 2007).

Other curricular reforms of the 1990s and early 21 century is found in the introduction of interprofessional learning activities into the existing pre-clinical core curriculum. The interprofessional learning activities allow students in various health profes-

sions (e.g., medical, nursing, and pharmacy) to work effectively with each other through teamwork and collaboration.

The history of the current medical school curriculum has moved from an undefined curriculum of the prior 4000 years taught by temple priests to a 21st century clearly defined, medical curriculum with varied topics based in research encompassing both theoretical and practical orientations.

Ethics in Medicine

The ethics of early Mesopotamian physicians must be viewed within the context of a culture that did not distinguish between spiritual, magical, and natural entities.

Hence, in this environment, the ethical obligations of healers must be appreciated in terms of their role as interpreters of sickness and healing within the broader cosmological realities and social values of their community (Amundsen & Ferngren, 1995, p. 1441).

The ethics of the Mesopotamian *âshipus* (priests) differed from the ethics of the *asûs* (physicians). The *âshipus*, prognosticators whose medicinal administrations consisted of incantations and charms, withdrew treatment from individuals who they felt were terminally ill. According to Amundsen & Ferngren (1995), however, the act of ceasing to care for the hopelessly ill individual "...did not necessarily indicate a lack of compassion" on the part of the *âshipus* (p.1441). The *asûs*, who prescribed and administered medicines, treated the terminally ill individual until death (Biggs, 2000; Reiner, 1964).

Hammurabi (ca. 2067-1699 BCE), sixth Babylonian king, was responsible for creating a collection of 282 codified laws that served as a unifying force throughout the Babylonian Empire. The Babylonian *Code of Hammurabi* (ca. 1750 BCE) consisted of laws that dealt with the regulation of society, family life, and occupations and also in-

cluded ethical implications for physicians in the practice of medicine as well as stipulations for the protection of patients (Porter, 1997; Sigerist, 1951).

[The *Code of Hammurabi*] ... established a sliding fee schedule for services, promoted outcome measurements, which if not met, resulted in harsh penalties, required medical records to document diseases and therapies, included prescription benefits, fully explained patient's rights, and marketing and advertising publicized the edicts of the king. (Spiegel & Springer, 1997, p. 69)

In order to ensure the protection of the patient from harm, the *Code* contained penalties for the neglect or harm of the patient that encompassed the severing of the physician's hands or fingers or the infliction of heavy monetary fines. In addition, the practice of physician referrals to other physicians was a widely utilized and accepted form of practice within the Babylonian medical system of practice (pp. 81, 85).

Although the *Code of Hammurabi* calls for strict punishments for the breaking of laws, the *Code* does promote the humane treatment of patients by physicians. The ethical position of the Code sought to prevent the physician from entering into a treatment in which a successful outcome could not be guaranteed. A foreshadowing of the future Hippocratic admonition aimed at physicians to "do no harm" in the care of patients can be seen in the *Code* regarding the severity of penalties handed out to physicians who committed a commission or omission of practice (Katsarou, Ikonopoulou, Papadopoulos, & Lountzi, 2004).

The Homeric epics (ca.850 BCE) provide the earliest written record of Greek medicine, the ethics and social situation of the physician-healer. The Homeric epics portray the Greek physician as a servant of mankind who was held in great honor by his peers. The physician was seen as a warrior-hero called upon to perform selfless and he-

roic acts of bravery and healing in the midst of battle. Nutton (2004) states that Homer's portrayal of the physician "...provided later doctors...with a warrant for their sense of general superiority over the rest of mankind" (p. 37).

Although the beginnings of medical ethics can be noted in earlier eras, the origins of ethics in medicine are associated with Hippocrates in the fourth century BCE (Jonsen, 2000). Unlike Hammurabi's *Code*, "Hippocrates does not consider the medical ethics as a punishment, imposed by the authority, but as a moral rule of every doctor, which is taught, like self-control" (Katsarou, Ikonopoulou, Papadopoulos, & Lountzi, 2004, p. 43). The foundation for the medical ethics of the Hippocratic physician is based upon etiquette. For example, the ideal Hellenistic physician is portrayed as unselfish, dedicated to the art of healing, and committed to the ethical principal of to "do no harm" to their patients in the course of medical treatment (Porter, 1997, p. 62; Reich, 1995). Porter (1997), states that physicians "watched their patients, talking, winning trust, and giving a helping hand to the 'healing power of nature'" (p. 59). Hippocratic ethics calls upon physicians to act and prescribe treatments in ways that promote the good of the patient and admonishes physicians to avoid any actions that could bring harm to the patient. Moreover, decorum of excellent etiquette, in the absence of required licensing, could serve to elevate the Hippocratic physician's social standing in the community (Park, 1992).

The Hippocratic *Corpus* provides an ethical framework for physicians in the performance of their duties toward the patient and depicts the decorum, interpreted as both the ethical character and etiquette, of the physician (Amundsen, 1995a; Jonsen, 2000).

Among the more than 70 treatises in the *Corpus* several of the texts include ways in which physicians should render their medical skills and conduct themselves in the care of their patients.

Beginning in the fifth century BCE, a body of medical literature developed that describes the ethics of Greek physicians. These books dealt with eminently practical concerns suggested by medical practitioners for their own benefit, such as issues of the physician-patient relationship, and obligations to the arts, to humanity, and to life itself. (Amundsen, 1995a, p. 1510)

Examples of these texts include *Decorum*, *Physician*, *Art*, *Law*, *Precepts*, *Epidemics I*, and *Oath* (Jonsen, 2000).

One of the earliest references to ethics in medicine is found in the Hippocratic *Corpus* clinical and epidemiological treatise entitled *Epidemics I*. The authorship of the treatise, *Epidemics I* is historically attributed to Hippocrates. The central theme of *Epidemics I* centered on the physician's role in the diagnosis, disease progression, and patient's prognosis for recovery or death. If it appears that the patient will not recover, the physician is instructed to decline to accept the individual as a patient. *Epidemics I* also advises the physician "to help and do no harm" to the patient and asks the physician to treat the patient according to the highest standards of their abilities (Jonsen, 2000, p. 2).

Another *Corpus* text referencing early medical ethics is the *Decorum* treatise. *Decorum* provides another example of the desired ethical demeanor of the physician when treating patients. This treatise implies that the reputation of the physician will be enhanced through the use of good bedside manners. The text declares that the patient will be put at ease by the appearance, speech, and excellent conduct of the physician at the bedside of the patient. Physicians are also encouraged to consider the financial status

of the patient prior to setting a fee for medical care and, if necessary, to consider rendering treatment without payment to patients without financial resources.

The Hippocratic *Corpus* addressed a variety of issues concerning ethical decisions. The *Corpus* included areas of physician confidentiality and fees for services. Physicians were cautioned to withhold information from the patient regarding the patient's current condition or prognosis in order to avoid adversely affecting patient's confidence in treatment and to protect the reputation of the physician. Physicians were also entreated to render services to the poor without payment. Other characteristics of the ethical Hellenistic physician regarding care of the patient included sexual propriety, conveying truth to the patient, and respecting patient confidentiality and privacy (Reich, 1995).

The Hippocratic *Oath* (*Oath*), historically attributed to the discourses of the Hippocratic *Corpus*, centers on ethical behaviors that benefit the patient and, while paternalistic in nature, calls for the physician to employ their abilities and judgments to benefit the patient. The Hippocratic *Oath* served as a commitment among physicians to uphold professional ethical standards and share their knowledge of medicine with their colleagues and students as well as honor the commitment to serve their patients. The Oath also admonishes physicians to possess character that exhibits holiness and purity. The Oath has been called "the compendium of the physician's ethic" (Jonsen, 2000, p. 3).

Galen continued the Hippocratic tradition of etiquette centered ethics in the practice of medicine. In Galenic tradition, the ethics of the physician centered on character, attitude, and virtue and included aspects of etiquette such as respect, politeness, gra-

ciousness. Galen, in his treatise titled *The Best Doctor Is Also a Philosopher*, exhorts physicians to avoid the temptation toward greed and, as in the Hippocratic tradition, to treat the poor. Galen further admonishes the physician to follow a rational treatment plan in order to gain the patient's cooperation and engender confidence in the physician's ability to heal the patient (Jonsen, 2000).

During the early European Middle Ages (500 - 1050 AD), the focus of ethics in the practice of medicine moved from a Hippocratic tradition of etiquette to "[a]...blend of religious and virtue-based ethics..." (Grodin, 1995, p. 3; Mackinney, 1952). Society as a whole, including ethics in the practice of medicine, was greatly influenced by the teaching and domination of the Catholic Church and Christian principles which permeated all areas of religious and secular life.

Monks focused on treating the patient's soul, in addition to his body believing that God had ultimate authority in one's health and recovery...Whereas lay people often received physical medical care and were in part cared for out of monastic's responsibility for hospitality.... (Silverman, 2002, pp.11-12)

The early Catholic Church supported the use of medicine and looked upon the care of the sick and poor as a work of charity. Medical care by monastics was to dispense charity, compassion, and sadness for the suffering of others. The monastics who practiced medicine as a part of their religious duties were expected to provide medical care and aid to the ill and poor regardless of socioeconomic status or religious orientation and without the benefit of financial gain from the practice of medicine (Park, 1992; Silverman, 2002).

At the beginning of the high Middle Ages, the emphasis in the practice of medicine moved from a monastic orientation to a secular point of view (MacKinney, 1952).

The Catholic Church decreed that monastics were not allowed to study medicine in order to pursue monetary remuneration for medical services (Schroeder, 1937). Monastic physicians were allowed to treat only the monastics within their monasteries; treatment of lay individuals was forbidden. Secular physicians considered highly competent in the practice of medicine held a degree granted by a university medical faculty and licensure by the university faculty or by a representative of the ruling emperor (Amundsen, 1995b). The enactment of legislation requiring examination and licensure of physicians (1231 CE) prior the practice of medicine helped provide a framework for the responsibilities and the ethical conduct of physicians in the care of patients.

Everything connected with the conduct of the physician—from strictly technical matters ... to the question of fees or the problems of etiquette ... —later became known as medical ethics... The specific morality of the practitioner derived, therefore, from his being a healer technically trained, and was essential for his status as an expert in medicine. (Luis García-Ballister, 1993, pp. 44-45)

The ethical etiquette of the physician required that the physician visit patients in the morning and in the evening, serve the poor with kindness and generosity, refuse to abandon hopelessly ill patients, and request fees according to distances traveled to treat patients (Amundsen, 1995b).

The periodic outbreaks of plagues in Europe beginning in the late Middle Ages (1348) raised questions concerning the ethical responsibilities of physicians in the care of ill patients (Amundsen, 1995b; Park, 1992). The plague was highly contagious and the cause and mode of transmission of the disease were unknown. Treatments rendered by physicians were generally ineffective in either decreasing the suffering of the patient or in curing the disease. Amundsen (1995b) states that, “The efforts of physician’s to com-

bat and cure various strains of plague, as well as their attempts to educate people in prevention and treatment by writing plague tractates, graphically demonstrate a high level of ethical and professional responsibility” (p. 1534). Physicians were cautioned to refrain from informing the patient of an incurable condition and to avoid measures that would cause the patient to die prematurely (Amundsen, 1977a).

Although the continued outbreaks of the plague in the high and late Middle Ages affected both the rural and urban areas of society, the densely populated urban areas experienced a greater loss of life. During outbreaks of the plague many physicians remained in the cities and attempted to treat the sick while others either remained in the cities and refused to care for the sick or fled to the countryside (Cook, 1995). The physicians who either remained in the cities and refused to treat ill patients or who fled from the cities were generally viewed by both the public and physicians as having acted in an unethical and disgraceful manner (Amundsen, 1977b). According to Amundsen (1995b), “A basic feature of medieval medical...ethics was an obligation to be available to treat the ill or injured of the community and not to abandon hopeless cases” (p. 1534). However, the roots of the Hippocratic orientation of refusing to treat hopelessly ill cases remained in various areas of medical and public midlevel society. Physicians who chose to treat the ill in plague outbreaks risked accusations of treating hopeless cases out of a motive of financial greed. The divergent views in the ethical issues of medicine highlight the conflicting views of ethics in medicine during the high and late Middle Ages.

The continued pandemic outbreaks of the plague in the high and late Middle Ages resulted in ethical debates focused on questions such as “under what circumstances

does a person who has medical skills have a special obligation to serve the community” (Jonsen, 2000, p. 46). The physician-surgeon Guy de Chauliac (1290-1370), summed up the decorum of the physician during the high Middle Ages:

The doctor should be well mannered, bold yet cautious, and should abhor false cures or practices. He should be affable to the sick, kindhearted to his colleagues, and wise in his prognostications. He should be chaste, sober, compassionate and merciful. He should not be covetous, grasping in money matters, and then he will receive a fee commensurate with his labors, the financial ability of his patients, the success of the treatment, and his labors, and his own dignity. (cited in Bullough, 1966, p. 94)

Public opinion of ethics in medicine further suggested that physicians should not become involved in public medical disputes, should refrain from advertising medical practices, and should continue to treat the poor without charge (Cook, 1995).

The ethics of the Renaissance and Enlightenment physician were based on the decorum, etiquette, and competence of the physician. The influence of the Roman Catholic Church and the efforts of the Church to define the character and responsibilities of physicians continued to decline because of the shift from a religious orientation toward a more humanistic and secular orientation. The Renaissance and Enlightenment, according to Gutek (1995), “... referred to as a ‘reawakening of classical learning’...[represented] a shift in perspective as interest revived in the humanistic and secular implications of the Greek and Latin classics rather than in their providential and religious aspects” (p. 114).

Texts that served to guide physicians in ethical decision making in the Renaissance and Enlightenment included Aristotle’s *Nicomachean Ethics, II*, which emphasized practical and ethical choices made by persons possessing virtue, and Cicero’s *De*

hOfficiis (On Duty), which promoted a doctrine based on the natural law inherent in the human conscience designed to assist individuals in choosing between personal gain and the common good (Gutek, 1995; Jonsen, 2000). Leake (1927) states that until the end of the Renaissance, “the medical profession tried generally to handle its ethical problems on the basis of the Greek tradition of good taste and personal honor” (p. 36). The medical ethics of the Renaissance and Enlightenment equated learning and knowledge with an individual’s good character which further emphasized the decreased influence of the Church regarding the character of the physician in the practice of medicine.

At the close of the Enlightenment, English physician Thomas Percival (1794) crafted a code of conduct for the purpose of resolving a dispute between physicians of the Manchester Infirmary in Manchester, England (Jonsen, 2000; Leake, 1927; Veach, 2005). Percival’s essay, titled “*Medical Ethics; or, a Code of Institutes and Precepts, Adapted to the Professional Conduct of Physicians and Surgeons*”, became the model for the first modern code of medical ethics (Grodin, 1995). Guidelines for conduct in duties relating to hospitals, professional conduct in private practice, relationships with apothecaries, and duties relating to legal matters (Percival, 1803). In 1803, Percival, published an expanded version of the essay that focused on standards of morality and etiquette for general practitioners and surgeons. Veach (1995) states that, “Percival’s treatise places emphasis on the professional relationships of physicians to one another; to hospital personnel, apothecaries, and others engaged in the care of the sick; and to the law” (p. 1423).

In contrast to the ethics of European physicians, the ethics of North American physicians during the Enlightenment through the early nineteenth century were founded upon religious values.

North American physicians fashioned their ethics as professionals from the dominant cultural ideals of their era...from rules and regulations of newly established medical institutions, and from laws and legal institutions operative in the communities in which they practiced... An intimate causal connection existed between character and professional righteousness. The beliefs and rituals of Christian institutions formed character. The ethically acceptable physician displayed the characteristics of a Christian. (Burns, 1995, p. 1610)

Physicians were expected to be both Christians and gentleman in their relationships with patients and colleagues. The characteristics of the gentleman physician of North America included proper birth, moral character, wealth, service orientation and sufficient education.

When the American Medical Association (AMA) was organized in 1847, medical licensure was not required to practice medicine in North America and the practice of medicine was viewed as lacking professionalism. The AMA attempted to establish a code of ethics for the medical profession by creating a uniform standard for professional education, training, and conduct (Konold, 1962; Veatch, 1995). In 1847, the AMA published the document titled *Code of Medical Ethics* (Code). Percival's (1803) *Medical Ethics* served as the foundation for the document which was revised to reflect medical ethics within an American context (AMA, 2012; Jonsen, 2000; King, 1982; Konold, 1962; Veatch, 1995). The revised *Medical Ethics* included three chapters; Chapter I outlined the duties of the physician to the patient and the responsibilities of the patient to the physician; Chapter II frames the duties of physicians to each other and to the medical

profession; and Chapter III describes the responsibilities of the medical profession to the public and the obligations of the public to the medical profession (Jonsen, 2000; King, 1982; Percival, 1975 [1803]; Veatch, 1995). The revised code focused on the principles for physicians in private practice and the responsibilities of the public and patients to physicians and placed Percival's ethical theme of "dignity and honor among gentlemen" within an American medical context (Konold, 1962; Veatch, 1995, p. 1433).

One outcome of the AMA's amended version of Percival's treatise was that the ethics of the physician no longer focused exclusively on Christian characteristics but included the moral character of the physician as well (Burns, 1995). Physician John Bell, chairman of the amended Code's drafting committee, supported the view that medical ethics, as a part of general ethics, was founded on religion as well as morality (Jonsen, 2000).

Professional righteousness in the United States could be measured by the extent of adherence to this code. Professionally virtuous doctors maintained professional secrecy, made the proper number of visits to the sick, did not offer gloomy prognoses, cared for the incurably sick, requested consultations as needed, and abided by the numerous other precepts in this code that was adopted voluntarily by many societies. (Burns, 1995, p. 1613)

The AMA's code was thought to provide a means by which the professional character of the physician could be measured and utilized as a model for creating a common moral order for physicians. In 1873 the AMA established a judicial council to enforce the code and deal with ethical and constitutional arguments; however, there is no indication that the council was effective in enforcing the code among physicians (Konold, 1962, p. 39).

Furthermore, toward the end of the nineteenth century, physicians supporting the AMA's ethical code placed relationships with fellow physicians above the advancement

of science in medicine. In contrast, a movement arose among scientifically oriented physicians that promoted a professional morality centered on the specialization and the use of scientific knowledge in the practice of medicine. The physicians who sought outcomes in disease prevention and curing of illnesses through scientific methods deemed the application of scientific knowledge in medicine of greater importance than adherence to professional ethical and religious beliefs or medical codes. The primary focus of physicians, however, remained loyal to the ethical values embodied in the AMA's code (Burns, 1995).

Although the trend toward scientific orientation in the practice of medicine continued into the twentieth century, physician adherence to codes remained the prevalent means for the establishment of medical ethics in the practice of medicine. In 1903, the AMA revised the *1847 Code of Ethics* and retitled the document *The Principles of Medical Ethics*. The document was again revised four times throughout the twentieth century. Each revision promoted an increased level of "professionalism and ideals about the scientific excellence of the practitioner" (Burns, 1995, p. 1617).

Medical ethics in the years preceding World War I focused on "the respectability and collegiality of the profession and detailed the etiquette of professional relationships that promoted those themes" (Jonsen & Jameton, 1995, p. 1618). One area of ethical concern involved medical care delivered to patients by "irregular" practitioners. Professional ethics of this period called for the refusal of physicians to treat or refer patients to "irregular" practitioners in order to protect patients from harm by non-physician practitioners (Jonsen & Jameson, p. 1995).

Another area of ethical concern prior to World War I involved physicians receiving fees for patient referrals to other physicians or specialists. The practice of non-medically necessary patient referrals was viewed by physicians as an exploitation of the patient as well as an unethical practice of medicine. Generally, physicians of this era determined medical fees according to the patient's ability to pay for medical services; indigent patients were provided with free services (Jonsen, 2000).

Two physicians in the early nineteenth century made contributions in the areas of medicine and ethics. Sir William Osler (1849-1919), professor of medicine at Johns Hopkins School of Medicine, at Baltimore, Maryland and Regius Professor at Oxford, the highly esteemed American and English physician, said little about ethics in medicine. Osler served as a role model of professional competence and ethical behavior of the medical practitioner. Jonsen and Jameton (1995) described the state of medical ethics in academia:

Many [physicians] believed that ethics was 'caught' rather than taught. Medical ethics...was best conveyed to medical students by the example of prominent physicians, such as William Osler, as well as by the models of the leading teachers in individual medical schools. Their lives and writings were common touchstones of discussion. Moreover, resolution of ethical issues tended to emphasize the need for the excellent overall character and reputation of the physician, that is, an ethics of virtue. This emphasis on the good intentions of the physician was congruent with the model of practice then supported by the AMA—the independent practitioner in contract with the individual patient. (p. 1621)

Osler's lifestyle and writings, greatly influenced by the Hippocratic Oath and the Golden Rule, centered on medical competence, the character of the physician as a gentleman, and the relationship of the physician with the patient (Veatch, 2005).

A second physician who influenced medical ethics in the early nineteenth century was Richard C. Cabot (1868-1939), professor of both clinical medicine and social ethics at Harvard. Cabot viewed the moral practice of medicine as competence and the incompetent practice of medicine as unethical. Cabot saw clinical competence as the focal point of medical ethics (Veatch, 2005). Clinical competence, according to Cabot, included not only the humanistic qualities of the physician but encompassed scientific knowledge and an understanding of the individual and social needs of the patient (Dodds, 1993; Jonsen, 1998).

Moreover, Cabot was aware of the continued changes in the practice of medicine that began in the late nineteenth century. These changes included the shift of medical care into the hospital, the growth of biological sciences related to the understanding of disease, increased specialization in medical practice, and the utilization of additional non-physician personnel. Cabot urged hospital physician specialists to avoid the exploitation of junior faculty and students by excessive patient responsibilities or by taking credit for scientific discoveries made by students (Burns, 1977).

Cabot advocated truthfulness in the physician-patient relationship. He referred to truth-telling as an issue of professional ethics and fundamental to clinical competence. Cabot called for physicians to practice truth in communication regarding the diagnosis of disease as well as truth and honesty regarding the patient's "diagnosis, prognosis, and treatment" however; he said that pathological findings and complications should not be discussed in order to avoid upsetting the patient (Cabot, 1903, p. 87; Burns, Jonsen, 2000; Reiser, Dyck, & Curran, 1997). In addition, Cabot opposed the exploitation of

patients for teaching purposes. The ethical responsibility of the patient's physician included obtaining the patient's consent for teaching purposes and protecting the patient from situations that could bring about fatigue or suffering.

Jonsen summed up the state of medical ethics in the practice of medicine prior to the entrance of the United States into World War II:

At midcentury, then, medical ethics as decorum, deontology, and politic ethics seemed settled. The principles and duties were known and acknowledged. The professional virtues were accepted and practiced, sometimes sincerely, sometimes pragmatically. The place of medicine in society was firm. Medical ethics was communicated to young doctors by the example of their elders, rather than in lectures and courses. Few challenges to this settled state seemed apparent, and medical ethics became something of a backwater in the American medical world. (2000, p. 97).

The public as well as the medical community seemed satisfied with the ethical decorum of the pre-Second World War physician in areas such as trust, confidentiality, and etiquette.

In summer 1941, President Franklin D. Roosevelt ordered the creation of the Office of Scientific Research and Development (OSRD). The purpose of the OSRD was to coordinate scientific research for military purposes in the anticipated entrance of the United States into World War II. The Committee on Medical Research (CMR) was established as one of the departments of the OSRD. The research carried out by the CMR was directed toward discoveries in the prevention, diagnosis, and treatment of disease in order to benefit military medicine during the war (Bordley & Harvey, 1976).

The biomedical advances begun under the wartime auspices of the CMR continued into the postwar years. In the decades following World War II problems brought

about by medical, scientific, and technological advances arose that challenged existing medical ethics.

Between 1945 and 1965, antibiotics, antihypertensive, antipsychotic, and cancer drugs came into common medical use; surgery entered the heart and brain; organ transplantation was initiated; and life-sustaining mechanical devices, the dialysis machine, the pacemaker, and the ventilator were invented. Into the hands of doctors came the most powerful weapons against disease and death that medicine ever possessed. (Jonsen, 2000, p. 99)

Advances in the biomedical sciences resulted in new clinical interventions that could save and prolong lives. However, along with these advances came new moral and ethical questions and dilemmas that physicians of previous generations had not encountered. New moral and ethical questions arose in the practice of medicine: Who should live? Who should die? How should the expensive resources of health care be allocated? What constitutes benefit or harm to the patient? These questions would serve as the basis for developing new ways of thinking about decisions regarding the ethical and moral issues in science and medicine that would be referred to as “bioethics in medicine”.

Philosophy and Theology

Bioethics has no overarching methodology and no dominant theory. Historically as well as currently, bioethics in medicine remains influenced by the disciplines of philosophy and theology. The interdisciplinary discussions of philosophers and theologians “often transformed the desultory discussion common to ethical discourse into formats with distinct definitions and logical arguments” (Jonsen, 2000, p. 118). The debates among the disciplines of philosophy and theology did not result in the formation of a single ethical theory; however, the disciplines continue to promote interdisciplinary discussions regarding the moral dilemmas of medicine.

Although no early philosophy was developed devoted exclusively to medicine, the ethics of medicine was influenced by ancient Greek philosophers. Early Greek philosophers in the city of Miletus, in Asia Minor, did not adhere to prevalent cultural beliefs regarding the supernatural but developed theoretical explanations to explain natural phenomena. The Greek philosopher Thales (ca. 639-544 BCE) was referred to as the originator of natural philosophy and the “father of rational medical thought” (Sullivan, 1996a, p. 137). Thales developed theories of rational causation in order to explain natural phenomenon and applied logic to account for natural order. His method of comparing elements of disorder to ordered elements can be noted in the area of diagnosis in the clinical practice of medicine today (Longrigg, 1993; Sullivan, 1996a).

Pythagoras (ca. 580 BCE), early Ionian Greek philosopher and mathematician, believed that the basis of the universe was numerical. Pythagoras developed the concept of harmony and proposed a system of opposites (e.g., limited-unlimited, odd-even, and unity). The body, according to Pythagoras, was looked upon as a type of musical instrument where each string must have the right balance and correct tension between opposites. Thus, harmony in the body (health) is achieved when opposites are in balance (Garber, 2008, pp. 14-15).

Anaximenes (ca. d. 528 BCE), the natural philosopher and a successor of Thales, developed theories in order to explain the origin of things. He attempted to explain how things came into being, and how change occurred (Sullivan, 1996a). For example, Anaximenes saw air as the source of all things and was interested in the theory of opposites (e.g., hot-cold, moist-dry) (Popper, 1958). The philosopher described the theory of

change as air being invisible when evenly distributed, but visible as a mist, cloud or water, and finally in solid form such as ice. Anaximenes' theory contributed to a rational explanation of logical change that would later become the foundation of pre-Hippocratic rational ideology (Sullivan, 1996a).

The Greek philosopher and physician Alcmaeon of Croton (ca. sixth century BCE) described disease through the use of rational interpretation. Alcmaeon, member of the medical school at Crotona, followed the Pythagorean belief that health was a result of the equilibrium of forces such (e.g., hot, cold, wet, dry, sweet, bitter) (Amundsen & Ferngren, 1983, p. 10). He defined disease as disharmony of bodily forces brought about as a result of external causes while health was described as harmony between all bodily forces (Debernardi et al., 2010).

Alcmaeon also proposed that the brain was the center of understanding and “the organ necessary for perceptions, sensations, and thoughts” (Debernardi et.al, 2010).

Alcmaeon's physiological theory concerning the body's sense organs and medical theory concerning opposites provided a foundation for pre-Hippocratic rational medicine as well as a platform for future psycho-philosophical inquiry (Longrigg, 1993; Sullivan, 1996a).

Greek philosophers, such as Socrates (469-399 BCE), Plato (427-347 BCE), and Aristotle (384-322 BCE), used medicine as a method of instruction to develop models of ethics in the use of knowledge. The early philosophers used analogies to compare the health of the body to the health of the soul. Medicine became a platform for a broader scope of arguments on human nature.

What is clear is that in classical Greece *philosophical* speculations about nature became enmeshed in dialogue with *medical* beliefs about sickness and health; dialogue and debate were integral to Greek intellectual life. (Porter, 1997, p. 55)

The physicians in Greek culture saw health as a state of equilibrium and illness as a state of disharmony. The ancient Greek physicians looked for ways to restore equilibrium to the patient. Greek philosophers centered on the goals of a moral life and “sought to explain the universe in rational terms” (Gutek, 1995, p. 35). Pellegrino (1993) noted that, “These [Greek] philosophers focused on the overall aims of the moral life, such as defining the good and the just, and cultivation of the virtues” (p. 1159).

The Greek physician Hippocrates (460-377 BCE), influenced by the Pythagorean theory of harmony as an indication of health in the body, is credited with separating philosophy from medicine through the introduction of a rational and empirical system of medical instruction (Sullivan, 1996b, p. 309). Philosophical ideologies were, in the Hippocratic practice of medicine, unable to restore patients to a state of health. Practitioners of Hippocratic medicine, although influenced by earlier Greek philosophers, rejected a philosophical approach to the practice of medicine and employed a rational, physiological method focused on observation and logical thinking in the diagnosis and treatment of patients.

The treatises of the Hippocratic *Corpus* (420-350 BC) also displayed occasional references to philosophy however, the texts focused largely on the treatment of diseases and the ethics of the physician in the care of the patient. “The Hippocratic Corpus represented the final philosophical and intellectual

break from Homeric irrationality” (Sullivan, 1996b, p. 309). Jonsen addressed the infrequent mention of philosophy in the *Corpus*:

Thus, in a world where ethical philosophies flourished, the medical ethical literature does not reflect many of the ideals and arguments of... philosophies other than what might be expected from cultured writers. Indeed, Plato, Aristotle, the Stoics, and the Epicureans seem more impressed by Hippocrates than Hippocrates and his colleagues are by the philosophers. (2000, p. 8)

The treatises of the *Corpus* reflected a rational and empirical approach to the practice of medicine while Greek philosophers contemplated the attributes of nature in the realm of medicine.

Galen (129-161 AD), educated at the four major philosophical schools in Pergamum (Platonists, Peripatetics, the Stoics, and Epicureans), was not aligned with any specific philosophical ideology. In his treatise *The Best Doctor is also a Philosopher*, Galen admonishes physicians to “be of logical thought and well schooled in natural philosophy; they [physicians] must be morally impeccable” (Sullivan, 1996c, p. 493).

Furthermore, Galen felt that the knowledge of philosophy assisted the physician in the development of “skilled reasoning about the problems presented to him and [in] understanding the nature and functions of the body within the physical world...” (Jonsen, 2000, p. 10). Galen based the need for the development of reasoning upon two philosophical schools: (1) Methodist (causes of illness were therapeutically useless) and; (2) Empiricists (observed course of a disease) (Sullivan, 1996c). Galen supported the belief that the employment of theoretical knowledge coupled with empirical observation led to a rational approach in clinical judgment.

During the early Middle Ages, the theological views and religious teachings of the Roman Catholic Church influenced the practice of medicine as well as the ethics of medicine. “This theological and ecclesiastical influence manifestly shaped the ethics of medicine....” (Jonsen, 2000, p. 13). The interfacing of the Catholic Church with society allowed the principles of Christian morality, compassion, and charity toward mankind to become the ethical focus in the practice of medicine.

Basil of Caesarea, or Saint Basil the Great (ca. 329-379 CE), presented the moral and practical aspects of theology related to the delivery of medicine at the onset of the early Middle Ages. St. Basil promoted the theological view that the common nature of man reflected the need of mankind to treat the needs of others as they would treat their own. St. Basil introduced the foundational theological concepts of charity and acts of mercy toward the ill, poor, and underprivileged into the delivery of medicine by the monastics (Amundsen, 1995b; Porter, 1997). Furthermore, St. Basil carried out the biblical admonition to provide care for the infirm and destitute through the establishment of poorhouses, hospices, and hospitals. In addition, Saint Benedict of Nursia (ca. 480-543), referred to as founder of western monasticism, continued the theological teachings of St. Basil that placed the care of the sick as the priority of the monastic orders. “...Hence it is no surprise that monasteries became key medical centers, more important than universities prior to 1300” (Porter, 1997, p. 111).

In the high middle ages, Dominican priest Thomas Aquinas (ca. 1225-1274), although not a philosopher, was an advocate of natural theology based on reason and experience and suggested that the physician as a minister of nature. Aquinas was influential

in natural theory becoming a basic study in medieval universities such as Paris (Gutek, 1995).

Physicians and philosophers in the Enlightenment began to engage in conversations about ethics. Earlier Greek philosophies were no longer considered relevant for the cultural and scientific advances of the Enlightenment. During this period, there were no clear lines of demarcation between physicians and humanistic philosophers. Veatch (2005) described the ethical dialogue between physicians and philosophers:

... an Enlightenment pattern-an intelligentsia being broadly and classically educated without concern about the disciplinary boundaries separating the sciences from the humanities. (p. 9)

To know the ethic of medicine, one conversed with the proponents of the ethical system of the day and then applied that system to medicine. (p. 6)

None of the philosophical positions were exclusively devoted to medicine. Physicians did not develop a separate system of medical ethics. Medical ethics in the Enlightenment developed as a result of conversations, not focused on medicine, between humanistic philosophers and physicians.

Physicians in the Enlightenment period were influenced by the empirical and philosophical views of influential scholars such as physician and scientist Francis Bacon (1561-1626) and philosopher and physician John Locke (1632-1704) (Sanchez-Gonzales, 1990). Influential philosophers and moralists of the Enlightenment included Hutcheson (1694-1746), David Hume (1711-1776), Adam Smith (1723-1790), Immanuel Kant (1724-1804), and John Gregory (1724-1773) (Veatch, 2005, pp. 6, 10). For example, John Gregory, Scottish physician and moral philosopher, played an instrumental role in the development of medical ethics in the Enlightenment. Gregory (1772) pub-

lished a series of lectures that included a treatise titled *Lectures Upon the Duties and Qualifications of a Physician*. Gregory's treatise contained a morally, philosophically based system of conduct for the ethical conduct of physicians (Jonsen, 2000, p. 60; Veach, 2005, pp. 6, 7, 11).

His [Gregory's] concept of practicing and teaching ethics in medicine and science is established on a very broad footing: combining Bacon's general philosophy of nature and science with both, the general, likewise empirically based moral philosophy of...David Hume (1561-1776), and with the principles upheld by the so-called Common-Sense Philosophy. His Lectures had – particularly via the famous Code of Medical Ethics of Thomas Percival (1740-1804) – a decisive influence on our contemporary concepts of ethics in medicine and science. John Gregory is...an important and certainly the most comprehensive among the founders of what is known today as modern Bioethics. (Strätling, 1997, p. 455)

Medicine and philosophy continued to maintain a close interdependence throughout the Enlightenment even though a division between the disciplines had not yet occurred (Sanchez-Gonzalez, 1990).

Both Catholic and Protestant religious perspectives provided a foundation encompassing theoretical reflection and practical precepts that influenced ethics of medicine in the practice of medicine. "Theologians, in contrast to philosophers, speak about morality not in the abstract, but within particular communities seeking the right way to live" (Jonsen, 1998, p.41). Catholic theology looked at the personal morality of the individual as well as the social morality of institutions. Protestant theology focused on personal morality and obedience to the teachings of God's laws (Jonsen, 1998).

Communication between physicians and theologians, such as John Wesley and Thomas Gisborne, helped to shape medical ethics during the Enlightenment. Theologian, physician, and social reformer John Wesley (1771-1774) authored more than 32 treatises

tises that influenced science, medicine, and philosophy. His works included a five - volume series titled a *Survey of the Wisdom of God in the Creation: Compendium of Natural Philosophy* that included topics such as human physiology, biology astronomy, and botany. Wesley's text was widely read in both medicine and philosophy. Wesley supported the views of natural philosophy within a biblical context, and centered on the practical outcomes of science (Felleman, 2006).

He [Wesley] sought to engage in theology that was consonant with the best in science and reflected the trend in Anglican theology which aspired to bridge, but not obliterate, differences between theology, philosophy, and science. (Hass, 1994, p. 386)

Wesley opposed the Enlightenment trend to “move God off center stage and subordinate faith to reason” (p. 385). Wesley, however, supported the belief that the individual physician should possess an awareness of their ability to treat patients and assume the responsibility for the use or application of the treatment. Wesley's views demonstrated “... [the] connection between the individual's ethical and religious beliefs and the foundations for ethics and the practice of medicine” (Veatch, 2005, p. 53).

Anglican clergyman Thomas Gisborne (1758-1846), authored the treatises *Principles of Moral Philosophy* (1789) and *Enquiries into the Duties of Men* (1794). The treatise *Principles of Moral Philosophy* was written in order to refute views regarding utilitarian reasoning. Gisborne's *Enquiries into the Duties of Men* contained a section on the moral duties of physicians in which he exhorted physicians to “tell the truth” to patients regarding their diagnosis and prognosis and avoid “tell[ing] lies to patients for fear of alarming him” (Jonsen, 2000, p. 59). Gisborne's *Enquiries into the Duties of Men* influenced Percival's crafting of the pamphlet *Medical Ethics* (1803). Gisborn's *Medi-*

cal Ethics reflected Gibborn's stance regarding the physician's ethical duty to the patient and society.

At the conclusion of the Enlightenment, the conversation between philosophers, theologians, and physicians, centered on secular and religious issues in the sociocultural milieu, waned.

The conversation stopped, and physicians became isolated, left to do their professional ethics on their own without the benefit of active engagement in the ethical debates in philosophy and religious ethics. Humanists retreated to do their ethics work without the benefit of those on the firing lines of clinical decision making. (Veatch, 2006, p. vii)

...Unfortunately, this [cessation of conversation] occurred just when physicians ceased to receive a broad classical education that would prepare them to work at a sophisticated level on an ethic for their profession.... physicians were reduced to reliance on simple slogans and to copying from their predecessors, who had written more sophisticated ethics for medical professionals. (Veatch, 2006, p. viii)

Without the benefit of communication between the disciplines, physicians lacked an understanding of current philosophical and theological debates which resulted in an inability to effectively pursue relevant ethics for the practice of medicine.

The separation between moral and natural philosophy that occurred in the closing years of the Enlightenment continued to widen until medical ethics became increasingly focused on moral philosophy. The absence of intellectual exchange between the disciplines of philosophy and theology, both familiar with medical theory and science, resulted in a trend toward physicians' relying on the effectiveness of science, applied through medicine, as a guide in ethical decision making (Veatch, 2006).

The nineteenth century and the early years of the twentieth century, however, found medical ethics aligned with neither natural nor moral philosophy but centered on

areas of the medical practice of the individual physician. The effect of Percival's treatise, *Medical Ethics* (1803), on the practice of medicine helped to reduce the scope of medical ethics to a focus on three questions: Who will practice medicine?; What will be the relationships with other practitioners? and; What will be the scope of the obligations to patients, institutions, and civic authority? Fox (1979) summed up the state of medicine and philosophy in the nineteenth and early twentieth centuries:

Medical ethics remained close to the practical problems of practice....Because it [medical ethics] was segregated from both moral philosophy and political economy, medical thought about human relationships remained-or became-rigidly individualistic. (p. 90)

...The exclusion of medical issues from moral philosophy made possible their absence from the social sciences which developed from philosophy during the nineteenth and twentieth centuries. (p. 91)

Early twentieth century medical ethics remained focused on the practical problems of the practice of medicine and, as a result, physicians were further isolated from moral philosophy.

Many physicians, certainly all who had attended college, had studied moral philosophy, which was a required course for all college seniors. Many moral philosophers were familiar with medical theory and science....Yet they rarely alluded to its problems in their philosophical writings. (Jonsen, 2000, p. 84)

The areas of moral philosophy and theology in the practice of medicine continued to diminish in their influence upon ethics in the practice of medicine.

Catholic theologians, however, continued discussions with Catholic physicians regarding ethical reasoning and analyses of moral issues in the practice of medicine.

Catholic moral theology addressed the areas of individual personal morality as well as the social morality of institutions (Jonsen, 1998). Father Charles Crippen (1835-1920),

Jesuit priest and member of the faculty at Creighton Medical College, proposed that concerns regarding morality found in the biblical teaching of the Church could be addressed through ethical reasoning and analyses of moral problems (Jonsen, 2000).

Coppens authored two treatises: *A Brief Text-Book of Logic and Mental Philosophy* (1891) and *Moral Principles and Medical Practice: The Basis of Medical Jurisprudence* (1905).

Philosophy looks not for novelties, nor does it aim at originality of thought, but it studies the eternal and unvarying principles of truth.... Among the purely human sciences, Philosophy is the noblest and most important: for its final purpose is the most exalted, its process the most intellectual, and its teachings secure the foundation of the other sciences. These receive from it their principles, the laws of their investigations, and the ends or purposes to which they should be directed. (Coppens, 1891, p. 8)

Coppens admonished physicians to employ philosophical and theological principles in order to determine the moral correctness of a course of action (Jonsen, 1998).

Richard C. Cabot (1868-1939) was concerned with the decline of morality in medical ethics in the practice of medicine. In 1933, Cabot authored the philosophical text, *The Meaning of Right and Wrong*, in which he analyzed the foundations of ethics in the areas of agreements, desires, and needs which may be implicit or explicit. Cabot argued that “right desires, agreements, and plans are those that are governed by reality as it shows itself in our needs. Wrong desires [self-deceit], agreements, and acts are those that diverge from reality and our needs through self-deceit”. According to Cabot, the two principles of the moral life are found in the stability and growth inherent in the principles of right conduct (Nilson, 1933, p. 132). Cabot’s interest in moral philosophy,

however, did not result in the blending of the practice of medicine together with philosophical ethics.

Chauncey Leake (1896-1978), pharmacologist and scientist, served as Chancellor of the Texas Medical Branch in Galveston (1942-1955). In 1927, Leake published a revised version of Percival's treatise, *Medical Ethics*. Leake's revised version of *Medical Ethics* made a distinction between medical ethics and medical etiquette (Leake, 1928). Leake felt that Percival's interpretation of medical ethics disregarded the philosophical literature on ethics and, instead, focused on etiquette rather than ethics in medicine (Jonsen, 1998, p. 9; Leake, 1927; Veatch, 2005). According to Leake:

Medical etiquette is concerned with the conduct of physicians toward each other, and embodies the tenets of professional courtesy. Medical ethics should be concerned with the ultimate consequences of the conduct of physicians toward their individual patients and toward society as a whole, and it should include a consideration of the will and motive behind this conduct. (p. 2)

Furthermore, Leake maintained that professional ethics should rest upon a foundation of moral philosophy (Brieger, 1978). Leake, perplexed about the absence of rigorous moral philosophy in the development of an ethic for medicine, developed courses that introduced students to moral philosophy and the ethics of medicine (Leake, 1928; Veatch, 2005).

Joseph Fletcher, professor of moral theology at the Episcopal Theological School in Cambridge, introduced the concept of autonomy of the patient and the right of the patient to make demands upon the physician and the right of patients in the physician-patient relationship. In 1949, Fletcher presented the Lowell Lectures at Harvard University

which were eventually published as the treatise *Morals in Medicine* (1954). His lectures centered on topics such as contraception, sterilization and euthanasia. Fletcher's lectures introduced the idea that the patient had the right to decide the course of action taken regarding medical decisions and treatments. "Fletcher believed that the moral rights and interests of patients should weigh as heavily in the medical scales as do physical needs and conditions" (Jonsen, 1998, p. 44). Fletcher based his ethical analysis on the freedom of human beings.

In the mid-1960's philosophers and theologians began to engage in conversations about the development of clinical ethics and issues associated with medical morality. American philosophy lacked an interest in moral philosophy and primarily focused on epistemology and the application of philosophy to science (Jonsen, 2000). Scientific advances in diagnosis and treatment often saved lives although the results did not always benefit the health and well-being of the patient. Ethicists educated in philosophy or theology began to enter into discussions with physicians concerning "...ways and words to participate in the process of thinking through the ethical dimensions of a clinical decision about the care of a patient" (Jonsen, 1998, p. 10). Interaction between philosophers and theologians began to move away from abstract ethical and moral discussions to active participation with physicians in the clinical setting regarding the moral concerns and decisions in the care of patients.

Protestant theologian Paul Ramsey, professor of religion at Princeton University, authored texts focused on biblical scriptures and doctrine in search of truths applicable to ethics in medicine. Ramsey's essays included works on the ethics of research with hu-

mans and on the definition of death. In 1970, Ramsey published the text *Patient as Person: Explorations in Medical Ethics* that explored questions concerning informed consent, and organ transplant. Ramsey crafted content to be used as a text book that served as a foundation for the disciplines of philosophy, theology, science, in order to study the moral aspects of ethics in science and in the practice of medicine (Ramsey, 1970; Jonsen, 1998; Jonsen, 2000).

Philosophers and theologians shared in the development of bioethics. Philosophers sought to bring clarity and logic to debates among the disciplines. Theologians studied ethics in order to provide a foundation that included theoretical reflection and practical precepts focused on the morality of ethical issues. Philosophers and theologians continued to maintain interdisciplinary conversations in the area of philosophy, theology, and medicine in order to identify and analyze, questions regarding bioethics in medicine.

The Rise of Bioethics

Thus, in reviewing the development of medical education and ethics over the past 2000 years, one can conclude that the process has been one of change, from superstition and religion to professional, scientific practice. The change has been incremental and accumulative with some practices beliefs replacing earlier practices beliefs without those early practices/beliefs completely disappearing from the ethos of society; witness the response of some religious personalities to Hurricane Katrina as a reflection of Divine judgment. However, the scientific practice of medicine, driven partly by military needs and technological developments, changed what was possible in the mid-20th century,

creating conditions that caused practitioners to question whether what was possible should actually be done in medicine. Thus, the field of bioethics began to form in the years immediately following World War II, prompted partially by events occurring during World War II and immediately after.

In the summer of 1941, President Franklin D. Roosevelt ordered the creation of the Office of Scientific Research and Development (OSRD). The purpose of the OSRD was to coordinate scientific research for military purposes and national defense in the anticipated entrance of the United States into World War II. The Committee on Medical Research (CMR) was established as a branch of the OSRD. Research carried out by the CMR was directed toward discoveries in the prevention, diagnosis, and treatment of disease in order to benefit military medicine during the war (Bordley & Harvey, 1976). The biomedical advances begun under the wartime auspices of the CMR continued into the post war years.

Issues regarding human experimentation and the rights of individuals regarding voluntary informed consent prior to participation in research experimentation were addressed as a result of investigations carried out by the International Military Tribunal in Nuremberg, Germany. The Tribunal investigated the actions of Nazi physicians and officials accused of crimes against humanity during the World War II. Nazi physicians and officials conducted scientific and medical research on concentration camp prisoners. The actions by the Nazis brought to light the issues about the rights of the individual concerning voluntary consent in participation in research. The Tribunal's final judgment ends with the creation of the Nuremberg Code which contains ten "...basic principles

[that] must be observed in order to satisfy moral, ethical and legal concepts...” (Trials of War Criminals before the Nuremberg Military Tribunals under Control Council Law No. 10, 1949, p. 181).

In 1947, the World Medical Association (WMA) was founded in response to the ethical atrocities revealed as the result of judgments rendered by the International Military Tribunal. In 1964, the WMA “... developed the Declaration of Helsinki [DoH] as a statement of ethical principles for medical research involving human subjects, including research on identifiable human material and data” (World Medical Association, 2012). The DoH focused on the scientific standards of practice that should oversee research. The DoH differs from the Nuremberg Code by allowing authorized consent for participation in research to be given by a legal guardian in case of an individual’s legal incapacity. Furthermore, the DoH states that investigators should discontinue research if continuation could result in harm to the individual (World Medical Association, 2014).

In the late 1960s and early 1970s, the field of bioethics began to emerge as a field.

Usually dated from the late 1960s, the field of bioethics can be viewed either as a continuation of the medical ethics tradition or as a qualitatively different enterprise due to its emphasis on personal autonomy. The history of medical ethics in the period immediately before the advent of modern bioethics appears thin, and the prospect of finding truly engaged discussions of medical ethics before 1960 seems rather remote. (Moreno & Lederer, 1996, p. 225)

Fletcher, Hite, Lombardo, and Marshall (1995) described early the bioethics movement of the 1960’s and 1970’s as consisting of two branches. The first branch was one “[of] interdisciplinary dialogue and [of] literature” and referred to as bioethics or biomedical

ethics. The second branch was seen “as an agenda for social change that was supposed to guide decision making with human subjects of research and patients” (p. 4). Bioethics in this context was viewed by the authors “as an academic subdiscipline within the larger field of ethics”. (p. 4)

The Tuskegee Syphilis Study (1932-1972) as was an example of an ethical dilemma brought about by the advent of new technology (i.e., the treatment of syphilis with the antibiotic penicillin) and the practices of the researchers’ conducting of the study. The Tuskegee Syphilis Study brought about changes in research practices involving human subjects in order to ensure that the research would be carried out ethically. The Tuskegee Syphilis Study was a clinical trial conducted by the US Public Health Service over the years 1932-1972. Researchers in the trial followed a cohort of African-American men for the purpose of studying the natural progression of untreated syphilis over time. The men were either not told of the diagnosis of the disease or were misinformed about the nature of the disease. In addition, participants were denied treatment, were discouraged from seeking outside medical advice or treatment, and were not notified when effective treatment for the disease became available (Jonsen, 1998; Jonsen, Veatch, & Walters, 1998; Singer & Viens, 2008).

Results of the Tuskegee Syphilis Study included the passage of the National Research Act (1974) and the creation of the National Commission for the Protection of Human Subjects of Biomedical and Behavioral Research (1974) (CDC, 2014). The Commission was asked to identify basic principles of conduct and to develop guidelines

regarding biomedical and behavioral research involving human subjects. The Commission considered four main areas:

- the boundaries between biomedical and behavioral research and the accepted and routine practice of medicine
- the role of assessment of risk-benefit criteria in the determination of the appropriateness of research involving human subjects
- appropriate guidelines for the selection of human subjects for participation in such research
- the nature and definition of informed consent in various research settings (Belmont report, 2014)

The Belmont Report was crafted as a summary of the Commissions' findings. The Belmont report contained three foundational principles for the use of human subjects in research for biomedical ethics. These three principles are respect for persons (respect for decision-making capacities of individuals), beneficence (to do good), and justice (distributing benefits, risks, and costs fairly (Belmont, 2014; Jonsen, Veatch, & Walters, 1998). The principles continue to serve as a framework for identifying and reflecting on moral issues.

New ethical dilemmas in medicine continued to arise. In October 2012, an outbreak of fungal meningitis was reported in the United States. The source of the outbreak was identified as fungal contamination of three lots of the drug methylprednisolone acetate used for epidural steroid injections. The medication was produced and distributed by the New England Compounding Center, a compounding pharmacy in Framingham, Massachusetts. As of October 23, 2013, the Center for Disease Control and Prevention (CDC) reported a total of 751 cases and 64 deaths as a result of fungal infections linked to steroid injections (CDC, 2012). As a result of the New England Compounding Center

meningitis outbreak, the Drug Quality and Security Act (H.R. No. 3204, 2013) became Public Law No: 113-54 in November 2013. The law gave the Food and Drug Administration authority to closely monitor and regulate the manufacturing of compounding drugs. In this incident, the realm of bioethics was seen as applicable to societal ethical dilemmas as well as to the ethical dilemmas of individuals.

Centers for the Study of Bioethics

During the latter half of the twentieth century, the development and refinement of new technological advances in medical treatments continued. With these new technological advances came new controversial ethical questions for physicians, health care workers, and patients. The demand grew for bioethicists who were willing to teach, carryout research, and serve in clinical settings (Jonsen, 1998).

In the late 1960s and early 1970s, the field of bioethics was beginning to develop. The field of bioethics “lacked institutional support for regular teaching and discussion, conferences and symposia...[which] were an important source for developing [ethical] literature [and] teaching” (Jonsen & Jameton, 1995, p. 1628). Two privately funded institutes were created that were devoted to the study of bioethics. First, the Institute of Ethics, Society, and the Life Sciences (Hastings Center) (1969) was founded to investigating the social, legal, and ethical aspects of the health sciences from an interdisciplinary perspective through working groups and task forces (Jonsen, 1998).

The Hastings Center offered a venue for philosophers and theologians “... to attempt to analyze these [ethical issues] within the perspectives and methodologies of the disciplines traditionally concerned with ethics: philosophy and theology” (Jonsen &

Jameton, 1995, pp. 1626-1627). As co-founder of the Hastings Center, philosopher Daniel Callahan sought to bring clarification to the emerging field of bioethics by facilitating interdisciplinary discussions regarding the meaning of life and how medicine is viewed and acted upon in light of the moral and ethical questions raised by scientific and medical advances.

Another philosopher, K. Danner Clouser, the first twentieth century philosopher appointed to the faculty of an American medical school (Penn State College of Medicine, Hershey, Pennsylvania), working at the Hastings Institute, attempted to bring clarity to the relationship between medical ethicists and medical clinicians (Jonsen, 1998). Clouser's (1975) essay, "Medical ethics: Some uses, abuses, and limitations", pointed out that the language, methods, and topics of individuals trained in philosophy differed from trained in medicine. The role of the philosopher, according to Clouser, would center on the issues and possible outcomes of various arguments and actions, determine relevant from non-relevant facts, and recognize the moral principles that are in question (Clouser, 1975; Jonsen, 1998).

Second, a privately funded institute, the Kennedy Institute of Ethics, (1971) was formed to promote research in bioethics. "The Kennedy Institute of Ethics followed an academic path, enabling research by providing professorships, fellowships, and courses and by creating the tools for research." (Jonsen, 1998, p. 24). Theologian and co-founder of the Kennedy Institute of Ethics Warren T. Reich edited two editions of the four-volume *Encyclopedia of Bioethics* (1978, 1995). The *Encyclopedia of Bioethics*

provided an interdisciplinary study of the ethical and moral dimensions of the life sciences and medicine.

In 1979, philosopher Tom Beauchamp and theologian, James F. Childress, both associated with the Kennedy Institute, co-authored the book *Principles of Biomedical Ethics*, now in its seventh edition. The text was viewed as the first systematic analysis regarding the value of moral principles that helped to guide the decision making process of biomedicine. The *Principles of Biomedical Ethics* presented four foundational principles of moral reasoning in healthcare justice in the allocation of resources, respect for the autonomy of patients, beneficence, and non-maleficence. The *Principles of Biomedical Ethics* encompassed the three main principles found in the Belmont Report (the final version of the document authored by Beauchamp) added the fourth principle of non-maleficence or to do no harm. The *Principles of Biomedical Ethics* which provided a framework for identifying moral issues served as a structure for moral decision making in clinical practice and has been widely used as a text in medical schools.

Summary

“Medical education is never a finished commodity; it is always changing and evolving” (Ludmerer, 1985, p.260). “The aim of [medical education] is learning that requires dedication to student welfare, competent pedagogy, and opportunities for students to practice their skills” (Pellengrino, 1995, p. 1437). Furthermore, an effective curriculum in a particular era for one medical educational institution might not be viable for another medical institution.

By the beginning of the twenty-first century, the discipline of bioethics was firmly established as a disciplinary area in medical education. Even though doctors and philosophers agreed that medical bioethics needed to be included in the education of medical students and young doctors, what was to be taught as medical ethics is still being defined by the profession. “The discipline of bioethics is not unified by a single dominant theory or methodology. It reflects the circumstances of its evolution and [continues to] look at questions about the ethical dimensions of medicine and science....” (Jonsen, 2000a, p. 118).

Statement of Problem

This study looked at the development of bioethics in the historical literature in order to provide an understanding of how bioethics developed as a discipline and influenced the preparation of students in the medical education curriculum. Except for a study by Mitchell, Lovat and Myser (1992) conducted in Australia, no case studies regarding the inclusion of bioethics in the medical school curriculum were found in the scholarly literature, including dissertations. Additionally, no study has been published reporting the inclusion of bioethics in the Texas A&M Health Science Center College of Medicine curriculum.

Statement of Purpose

The purpose of this dissertation is to document how the study of bioethics has been incorporated into the medical education curriculum at the Texas A&M Health Science Center College of Medicine.

Research Question

The following research question guided this dissertation:

How has the study of bioethics been implemented and taught in the medical school curriculum at the Texas A&M Health Science Center College of Medicine?

Definition of Key Terms

Ethics – The study of the principles of human behavior with respect to moral actions.

Medical Ethics – The study of the principles of ethics with respect to the practice of medicine.

Bioethics – “Bioethics is the systemic study of the moral dimensions—including moral vision, decisions, conduct and policies—of the life sciences and health care, employing a variety of ethical methodologies in an interdisciplinary setting” (Reich, 1995, p. xxi).

Limitations

Study limitations include the availability of primary and secondary sources in English. While a concerted effort was made to collect all syllabi, catalogs, and materials related to course instruction, the COM had no organized depository for materials. Additionally, while a topic might be listed in a syllabus, without class lecture notes, one is unable to say with certainty that the topic was all that was covered in the lecture, either

by inclusion or exclusion. The case study has limited generalizability because a single site was studied.

Delimitations

This study focuses on the historical development of bioethics and the role of bioethics in medical education curriculum. This study does not look at the application of bioethics outside of the medical school setting. It does not look at bioethics in the clinical setting. Ethics pertaining to animals is not included in this study.

CHAPTER II

METHODOLOGY

This dissertation is a case study of how bioethics has been incorporated into the medical school curriculum at the Texas A&M Health Science Center College of Medicine. The case study design is employed by researchers who are interested in insight, discovery, and interpretation (Merriam, 1988, p. 9). Merriam states that "...a case study is an examination of a specific phenomenon such as a program, an event, a person, a process, an institution or a social group" (p. 9). Researchers who carry out this type of research are not interested in hypotheses testing (p. 10). Research using the case study method of inquiry seeks to discover the interaction of factors unique to the phenomenon.

Qualitative researchers cannot study all of the elements that make up the phenomenon or case of interest such as individuals, settings, or events. Gall, Gall, and Borg (2007) state that "...they [qualitative researchers] usually study only one case or a few instances of the phenomenon of interest" (p. 547). According to Merriam (1988), "...the qualitative case study is a particularly suitable methodology for dealing with critical problems of practice and extend[s] the knowledge base of various aspects of education" (p. xiii). Merriam further states that "case study research in education seeks to understand specific issues and problems of practice" (p. 23). Lijphart (1971) views descriptive case studies as "atheoretical....[they are] entirely descriptive and move in a theoretical vacuum: they are neither guided by established or hypothesized generalizations nor motivated by a desire to formulate general hypotheses" (p. 691).

Generalizability in this descriptive case study was limited to a single site evaluation that looked at how bioethics was included in the medical education curriculum at the TAMHSC-COM. “One selects a case study approach because one wishes to understand the particular in depth, not because one wants to know what is generally true of the many” (Merriam, 1988, p. 173). Descriptive case studies, however, may be used as the basis of future studies that can be generalized to other study populations and in the development of theory (1988).

Validity is the extent to which the methods and procedures utilized in the case study design ensure research quality and rigor (Gall, Gall, & Borg, 2007). Validity in this study was obtained through the use of triangulation, and prolonged observation of documentation (Merriam, 1988). Triangulation, the use of multiple data-collection methods and sources, in this study was achieved through the use of course catalogs, syllabi, and texts. Repeated observation of documents and data was carried out over the course of the study.

Furthermore, Patton (2002) states that data for a qualitative case study, can be collected using methods such as direct observation, written documents, or interviews.

Document analysis includes studying excerpts, quotations, or entire passages from organizational, clinical, or program records; memoranda and correspondence; official publications and reports; personal diaries; and open-ended written responses to questionnaires and surveys....Data consists of excerpts from documents captured in a way that records and preserves context. (p. 4)

The results of the case study included a discussion of the findings using a thick, or thorough, description of the case context. An in-depth description of the case study allows the reader into the context of the setting being studied (Patton, 2002, p. 437).

Descriptive means that the end product of a case study is a rich, “thick” description of the phenomenon under study. *Thick description*...means the complete, literal description of the incident or entity being investigated. It also means “interpreting” the meaning of ...demographic and descriptive data in terms of cultural norms and mores, community values, deep-seated attitudes and notions, and the like. (Guba & Lincoln, 1981, p. 11)

Site Selection

The Texas A&M Health Science Center College of Medicine campus at Bryan, Texas was chosen as the site for this case study. The following criteria were used in the selection of the study site. First, no study has been conducted reporting the inclusion of bioethics in the medical curriculum at the Texas A&M Health Science Center College of Medicine. Second, Medicine & Human Values: Introduction to Medical Ethics was a required course in the curriculum taught in the Department of Humanities in Medicine beginning with the inception of the COM in 1977 and continuing through 2009. Lastly, the longevity and constancy of the COM program, curriculum, and course offerings presented an opportunity for an in-depth examination and analysis of data over time that led to insight regarding how the curriculum developed and the place that ethics and bioethics held in the curriculum.

Sources of Data for Case Study

Sources of data employed for this study included written documents such as syllabi, curriculum material, class handouts, published and unpublished materials, books, textbooks and online curriculum material. In addition, data was accessed through archival records located at several libraries located on the TAMU campus: these included

the Cushing Memorial Library, the Evans Library, and the Medical Sciences Library. Some materials were only available electronically over the Internet.

Data Examination

In order to determine how the study of bioethics has been incorporated in the medical education curriculum, an examination and analysis was carried out of available COM course catalogs and bulletins, syllabi, and assigned course readings. Data collection and analysis focused on the occurrence and frequency of the terms ethics and bioethics.

The available catalogs were copied for detailed analysis. Each program and course description was read and occurrences of ethics and bioethics were noted. A similar procedure was used with the course descriptions found in the catalogs. Each syllabus was read and a listing was made of required and suggested texts for the 911 course (real name). A topical review was conducted of each syllabus to determine if the word bioethics was listed as the topic of a daily lecture or lab session.

A review of the available COM curriculum archival material was conducted for the years 1977-2009 (with the exception of 2001-2003 for which no data was available). A search of available materials revealed that no document containing a comprehensive view of the COM curriculum over time existed. A curriculum map of the years of this study (1977-2009) was constructed using archival data obtained from COM catalogs and bulletins at the TAMU campus libraries and online sources. The overview of the COM curriculum, placed in an Excel spreadsheet, included course offerings, approximate hours of instruction per year, and elective experiences in the basic sciences and clerkship

years. The purpose of the Excel spreadsheet was to provide insight into the curriculum over the years and the program's overall plan for learning. Parts of the full curriculum, chosen for specific periods of the study are reported in Chapter V.

An examination of how often students were exposed to bioethics in lecture topics was conducted using course syllabi. Nineteen Medicine and Human Values: Introduction to Medical Ethics course syllabi were found in printed and online archival material. The individual syllabi were examined for information regarding the inclusion of bioethics in the course purposes, objectives, requirements, readings, and lecture topics. Also, a list of required and recommended books for the course was created. The results of the examination showed how bioethics was presented in the course over time.

A review was conducted of the course texts listed in the available syllabi that included one or more categories: Texts or Required Texts, Recommended Texts, or Other. The 1994 syllabus was incomplete; the part available did not include a list of books to be used. From the books listed on the syllabus, five were identified as being used in multiple years (including revised editions) or frequently referenced in the weekly syllabi topics. These five books, in various forms, were analyzed using an item analysis methodology. The majority of the books not examined were not text books but were popular or commercial publications (e.g. Camus, Gande, Reich, and Sontag).

The content examination of the books included the areas (when available) of the Table of Contents, Preface, Chapter texts, Bibliography, Reference or Notes sections, Appendices, and Index section. The examination was carried out using the terms ethics and bioethics and looked for patterns of frequency of the terms in the texts, references,

and cross-references to printed materials not found in the text. For each book examined, the research carefully read the text, the references, bibliographies of supplementary reading material, references to other books not cited in the text, indices, appendices and case studies and case histories looking for the presence of the words or phrase ethics, medical ethics, bioethics and various forms of these words (e.g., ethical, ethically). The occurrences were counted and recorded in tabular format. A summary form of this working table and the results of the content examination are reported in Chapter VI.

Qualitative researchers often use interviews to gather information about a phenomenon, particularly if the interviewees are the subject of study. As the instructors and students of the TAMUMC, their opinions or feelings about the curriculum were not the focus of this study, interviews were not conducted to collect data on those topics. However, faculty who have or currently teach in the MC were consulted to verify information collected and conclusions made. These consultations appear in the text as personal communication.

CHAPTER III

HISTORY OF TEXAS A&M COLLEGE OF MEDICINE

Introduction

The land-grant institution of higher education that was to become the Texas Agricultural and Mechanical College in 1876 was created to meet the needs of the changing Texas population and economic base from agricultural to agricultural and industry (Dethloff, 1975). Almost 100 years later, the land grant institution created the TAMU-COM to meet the health care needs of 20th century Texans.

The need to provide up-to-date health care for the Texas population led to the re-configuration of the TAMU-COM into the Texas A&M University Health Science Center in 1991. In 1997, the 75th Texas Legislature, through Senate Concurrent Resolution 74, supported a request by the Texas A&M University System Board of Regents to consolidate six health-related entities of the Texas A&M System into a system-wide health science center to create the Texas A & M Health Science Center. The establishment of the TAMHSC offered opportunities to increase enrollments in order to educate and train health care professionals to meet the needs of underserved individuals throughout the state.

This chapter will include a brief history of TAMU, the establishment of the COM, the change to the HSC, and finally the incorporation of the COM into the newly created TAMHSC. This chapter will also address areas of academic accreditation, COM enrollment, program accreditation, COM mission and goals, facilities, and de-

mographics, and it will include a brief overview of the Department of Humanities in Medicine.

History of Texas A&M University

Texas A&M University, the state's oldest public institution of higher education, was established as a land-grant college. The origin of the university can be traced to the passage of the Morrill Act by the United States Congress in 1862 (Morrill Act, Section 5, 1862, pp. 503-505).

The Morrill Act provided each state with Federal land based upon the number of members in the state's Congressional delegation. The Morrill Act stipulated that the land was to be sold and the proceeds from the sale were to be invested in United State or individual state stock. The revenue acquired as a result of the land sale was designated as a perpetual fund and the interest was to be used for the purpose of financing institutions dedicated to instruction in Agricultural and Mechanical Arts.

... each state may take and claim the benefit of this act [Morrill Act], to the endorsement, support, and maintenance of at least one college where the leading object shall be, without excluding other scientific and classical studies and including military tactics to teach such branches of learning as are related to agriculture and the mechanic arts, in such manner as the legislatures of the States may respectively prescribe, in order to promote the liberal and practical education of the industrial classes in the several pursuits and professions in life. (Morrill Act, Section 4, 1862, pp. 503-505)

The establishment of the land-grant institution of higher education that was to become Texas Agricultural and Mechanical College (TAMC), and later Texas A&M University (TAMU), was approved by the Texas Legislature in 1866 and passed on April 17, 1871 (Texas Constitution and Statutes, article 7, section 13).

In 1876, the TAMC, located in Brazos County, Texas, opened for instruction. Dethloff (1996) referred to the dedication ceremony of the college as the fulfillment of the vision of the men and women of the Republic of Texas who sought to create of an institution of higher learning that would benefit future generations of Texans:

Texans, who in the fragile days of the Republic of Texas had dedicated public lands to higher education, shared the great vision and aspirations of Senator Justin S. Morrill, who introduced the bill [Morrill Act] to establish the land-grant system of public higher education. The dream could not be shaken by bloody Civil War or by bitter Reconstruction. Texans had long looked forward to that day, October 4, 1876... the dedicatory ceremonies opening Texas' land-grant college and first public institution of higher learning.... (p. 3)

The Galveston News (1871) described the land that the college was built on: "Of the 2,416 acres comprising the original domain of the Texas A&M College, some two thousand were open prairie and the remainder was wooded, primarily with the scrubby Texas post oak" (as cited in Dethloff, 1975). It was further noted that wild longhorn cattle and mustangs could be found in the brush around the college area. Packs of wolves wandered among the tall weeds that surrounded the college and occasionally attacked students on the campus grounds. There were no dining facilities, running water, or residence accommodations for faculty or students during the early years of the college. The hospital facility was inadequate and deaths from diseases such as measles and pneumonia were not uncommon (Dethloff, 1996).

Admission to the TAMC was restricted to white males. Students were required to receive military training through mandatory participation in the Corp of Cadets. The opening semester of the college began with an enrollment of 6 students and with 6 facul-

ty (Dethloff, 1996, p. 5). “By the end of the first term, the number [of students] had grown to forty-eight. And by the end of the year, 106 students had enrolled” (p. 5).

The TAMC was commissioned to provide instruction focusing on the agricultural and mechanical arts. Dethloff (1996) described early instruction:

While the school was authorized to teach the agricultural and mechanical arts, such subjects had rarely if ever been taught anywhere else—and never in Texas. Knowledge about these subjects was, at best, severely limited. A&M’s first faculty share [the same] basic problems with faculties everywhere at that time and necessarily found similar answers: stick to the tenets of a classical education and avoid the unknown.... Within a chosen field there was a free choice of courses. There were, however, only six teachers on hand, so that [course] ‘choice’ was somewhat narrowed. Students... could attain S.A. in scientific agriculture, degrees in civil and mining engineering, or an A.B. in language and literature. (pp. 3-5)

In the academic year 1880-81, [only] 18 percent of the students were enrolled in agriculture as opposed to 83 percent in engineering. (p. 27)

By the fall semester of 1884, 133 students were enrolled at the undergraduate level and in 1888, “the faculty initiated programs of instruction at the graduate level” (Dethloff, 1996, p. 7). In 1890, two master of science degrees were awarded without designation of specialization, and one master of science degree in horticulture was conferred. Following the end of World War I, the Graduate School at Agricultural and Mechanical College of Texas was established in 1924 and in 1940 the first doctorate degree was awarded (TAMHSCOAR, 2006, p. 18).

With the outbreak of World War II in December of 1941, the governing body of the TAMC implemented a change in the structure of the school year from two semesters, to three semesters, of sixteen weeks for a twelve month school year. The change in the

configuration of the semesters allowed students to complete degrees in three rather than four years.

The enrollment of the college was also affected by the onset of war. The number of students registered for classes decreased either because of the draft or through voluntary admission into military service. The total enrollment of the college decreased from 6,500 in 1941 to less than 4,000 in February, 1943 (Dethloff, 1996, pp.133-135). By December 1943, only 1,893 students remained on campus (p. 135).

In addition, the governing board of TAMC, authorized the use of the campus for military training programs throughout World War II. The initial program trained approximately 2,000 airmen in flight navigation and as bombardiers. According to Dethloff (1996), “Texas A&M’s great contribution to the war effort included not only sending its students to war, but training nearly forty-five thousand personnel for all branches of the service”. (p. 132)

Following the end of the World War II, changes began take place in the make-up of TAMC. Until 1948, the academic focus of the college remained on the areas of agriculture and engineering. However, during 1948–1958, enrollment at the undergraduate and graduate levels grew in the School of Arts and Sciences. In 1948, approximately 1,000 master’s degrees and ten doctoral degrees were awarded by the college. By 1958, the number of graduate degrees conferred increased to 3,000 master’s degrees and 254 doctoral degrees (Dethloff, 1996).

The 1960s also brought changes in the configuration of TAMC. To highlight the institution’s expanded “roles and programs”, the 58th Texas Legislature approved a

change in the name of the school from the Texas Agricultural and Mechanical College to Texas A&M University in 1963 (Accomplishments of the 58th Legislature, 1963, p. 8). In 1963, the institution began to admit women and minorities were admitted into the student body by the mid-1960s. Dethloff (1996) recalled the events surrounding the admission of women to the college:

In 1915, the [Texas A&M] board made its first official policy statement excluding women from regular sessions at A&M. Despite this ruling, time and circumstances continued to promote a certain amount of flexibility in the all-male rule. After World War I, married veterans brought their wives to the campus, and provisions were made for many of them to attend classes as 'special unofficial students'. Seven women attended in 1922, fourteen in 1923. Thirty were enrolled by 1925. By 1925 directors ruled 'only relatives of college employees and women who seek special education unavailable elsewhere' should be admitted. From 1925-1933 no women attended classes as special or regular students. By 1933, however, the directors allow[ed] daughters of faculty and staff to enroll. (pp. 121-122)

By 1965, participation in the Corp of Cadets became voluntary although the organization continues to play a significant role in the leadership and tradition of the university (Dethloff, 1966).

Texas A&M University has been recognized as an institution of higher education to hold a designated land grant, sea grant, and space designation. In 1966, President Lyndon B. Johnson signed the bill H.R. 16559 into law, which created the National Sea Grant and College and Program Act (NSGCP Act, 1966).

The purpose of this bill is to provide for the establishment of a program of sea-grant colleges and education, training, and research in the fields of marine science, engineering, and related disciplines as a means of achieving the earliest possible institution of significant national activities related to the development of marine resources in and with relation to the total marine environment. (NSGCP Act, 1966, p. 3509)

The terms “sea-grant college” and “sea-grant program” emphasize the purpose of establishing programs analogous to the land-grant college programs initiated under the Morrill Act of 1862 which have contributed so much to the development of agriculture in the United States during the past century. (pp. 3509-3510)

In 1971, Texas A&M University became one of four universities to achieve Sea Grant College status (National Oceanic and Atmospheric Administration, 2013). Furthermore, in 1989, the National Aeronautics and Space Administration (NASA) established the National Space Grant College and Fellowship Program (NSGCFP). Thus, Texas A&M University became a space-grant institution.

NASA initiated the National Space Grant College and Fellowship Program, also known as Space Grant in 1989. Space grant is a national network of colleges and universities. These institutions are working to expand opportunities for Americans to understand and participate in NASA’s aeronautics and space projects by supporting and enhancing science and engineering education, research and public outreach efforts. (NSGCFP, 2013, np.)

Currently, Texas A&M University continues to be designated a land grant, sea grant, and space grant college.

Texas A&M University Accreditation

Texas A&M University is a member of the Texas A&M University System, a system of 21 universities and agencies each having its own CEO but each reporting to one system chancellor. Each university in the Texas A&M University System is responsible for gaining approval for individual academic programs from the Texas Higher Education Coordinating Board (THECB, 2014). The THECB is the agency of the state of Texas that oversees public post-secondary education in Texas. In addition, Texas A&M University continues to be accredited (initially in 1924 and most recently in 2012) by the Southern Association of Colleges and Schools Commission on Colleges (SACS) to

award degrees at the bachelor's, master's, doctoral, and professional levels (SACS, 2013).

Texas A&M University Enrollment

At the beginning of the 2014 fall semester, Texas A&M University opened for instruction with over 50,000 undergraduate and graduate students. Approximately 90 percent of the 2,800 faculty members held doctoral degrees, and more than 300 faculty members held endowed professorships or chairs (TAMUtimes, 2011; Texas A&M University Facts, 2013). In addition, 1,777 faculty were added through the addition of the Health Science Center to the university. The courses of academic study included approximately 120 undergraduate and 240 graduate degree programs in 10 colleges (Texas A&M University Facts, 2013).

History of Texas A&M College of Medicine

The Texas A&M College of Medicine (TAMU-COM) was founded in response to the growing need for primary care physicians predominantly focused on the health care needs of individuals in underserved rural and non-urban areas of Texas (TAMUOAR, 1981, p.9). Black (n.d.) described the creation of the TAMU-COM in 1971:

...the Texas legislature authorized the Texas College and University System Coordinating Board to designate a state institution of higher learning 'for the establishment, operation, and maintenance of a medical school to be located at or in connection with any Veterans Administration facility that may be made available for that purpose'. (para. 1)

The following year, Congress passed the Veterans Administration Medical School Assistance and Health Manpower Training Act of 1972 (Act Public Law 92-541, p.2), and

the Teague Cranston Act (1972), which addressed “shortfalls in the number of physicians and other health care professionals employed in the health system or the Department of Veterans Affairs” (H.R. 2126, 2003, p.3). The funds appropriated from the Veterans Administration Medical School Assistance and Health Manpower Training Act and the federal government provided for the establishment of the TAMU-COM in 1973 (p.3; TAMHSCOAR, 2009, p. 178).

Texas A&M University College of Medicine

Texas A&M University met the criteria for a new medical school in Texas. Texas A&M University was erected on government land, positioned near Olin E. Teague Veterans Center, and located in a state that encompassed vast areas of non-urban and sparsely inhabited regions. The TAMU-COM charter class enrolled in the fall of 1977.

The student of the Texas A&M University College of Medicine is in a position to benefit greatly from the wide spectrum of educational opportunities available by participating in a program which can selectively use the special strengths of a major university. These options permit the student to combine a background in medicine with other bodies of knowledge not commonly joined to it. (TAMUOAR, 1982, p. 231)

Texas A&M University Health Science Center

In 1991, in order to meet the need for a comprehensive range of health services for the population of Texas, focused on community health achieved through “multidisciplinary collaboration,” (TAMHSCOAR, 2005, p. 12), the Texas A&M System Board of Regents approved the establishment of the Texas A&M University Health Science Center (TAMU-HSC) with the College of Medicine as the initial central program (Black, n.d. para 1). The *Texas A&M Health Science Center Catalog* (TAMHSCOAR, 2011) offered the following definition of a health science center, “The general definition of a

health science center is several health-related colleges and a teaching hospital joined together by a central administrative unit, such as a president's office" (p. 11). The initial TAMU-HSC consisted of the College of Medicine, the Graduate School of Biomedical Sciences, and three teaching hospitals. Additions to the TAMU-HSC included the School of Rural Public Health (1995) the Baylor College of Dentistry (1996) and the Institute of Bioscience and Technology (1999), (pp. 11–12, 274).

Texas A&M Health Science Center

In 1997, the 75th Texas Legislature, through Senate Concurrent Resolution 74, supported a request by the Texas A&M University System Board of Regents to consolidate the health-related entities of the Texas A&M System into a system-wide health science center in order to create "...a unified administrative structure to be named The Texas A&M University System Health Science Center (TAMHSC), with headquarters in College Station [TX]" (Senate Concurrent Resolution 74, 1997). The Texas A&M University System Board of Regents request for a system-wide health science center "...extends the land-grant philosophy of The Texas A&M University System to improving the quality of life through good health and strengthening the economy by encouraging a healthy work force" (TAMHSCOAR, 2009, p. 5).

In 1999, the 76th Texas Legislature approved the creation of the TAMHSC which included the TAMU-COM, the Texas A&M University Institute of Biosciences and Technology, the Texas A&M University School of Rural Public Health, and the Baylor College of Dentistry. Other additions to the TAMHSC include the Irma Lerma

Rangel College of Pharmacy in 2006 and the Texas A&M University College of Nursing, 2011). In 2013, the TAMHSC became an entity of Texas A&M University

Accreditation

In June 1973, the THECB authorized Texas A&M University to create a joint program in medical education leading to the bachelor of science degree in medical science from Texas A&M University and the MD from Texas A&M University.

(TAMUOAR, 1973, p. 212)

The organization and procedures that govern the [Texas A&M] College of Medicine conform with the laws of the State of Texas, the objectives, rules and regulations for the Texas A&M University System, and the bylaws of the College of Medicine. (TAMUOAR, 1996, p. 10)

By October, 1976, the Liaison Committee on Medical Education (LCME), the US Department of Education accrediting agency for medical education programs leading to the Doctor of Medicine (MD) degree, granted provisional accreditation of to the TAMU-COM (Liaison Committee on Medical Education, 2014). In 1981, the LCME awarded full accreditation for the TAMU-COM Medicine. (LCME, 2014; TAMUOAR, 1983, p. 228)

College of Medicine Mission

The TAMU-COM was established in 1977 with an overarching mission of providing for the health care needs of populations in rural or non-urban areas of Texas with an emphasis on primary care medicine (TAMUOAR, 1978). The TAMHSC-COM continues to support the original mission of the college:

...its [TAMHSC-COM's] commitment to excellence in improving the health of Texans, particularly rural and underserved populations, through the integrated education of humane and highly skilled physicians and the development of

knowledge in the biomedical and clinical sciences. The college believes that diversity...enhances its ability to provide care to communities across a broad range of racial and ethnic groups and is critical for the amelioration of disparities in health care. (TAMHSCOAR, 2011, p. 58)

College of Medicine Goals

The TAMU-COM developed goals in order to accomplish the mission of the program. The goals of the TAMU-COM focused on preparing medical students to accomplish the mission of providing primary care physicians for underserved populations in Texas.

...a serious effort will be made to create the type of humanistic medical environment that will nurture social consciousness and idealistic concerns as well as support the student's growth toward becoming a scientist and healer. (TAMUOAR, 1976, p. 215)

1. To provide the student with the requisite body of knowledge and skills which are generally recognized throughout this country as having to be at the ready command of each new recipient of the M.D. degree.
 2. To assist students in the development of attitudes and habits which will enable them to perfect and then to apply their knowledge and education.
- (TAMUOAR, 1980, p. 224)

The goal for the College of Medicine is the eventual establishment of a majority of its graduates in primary care practices in small towns or rural areas. (TAMUOAR, 1981, p. 227).

The TAMHSC-COM (2009) created an expanded version of the original goals established by the TAMU-COM. The TAMHSC-COM developed goals that maintained the mission of the medical college.

Maintain a high quality medical education program that emphasizes a 'personalized educational experience' for medical students, and graduates physicians prepared to enter graduate study in any medical specialty.

- Educate a population of students diverse in talents, life experiences, race, socio-economic status, and ethnicity in order to enhance the effectiveness of care in an

increasingly diverse population, reduce health disparities and raise the cultural competence of health professionals.

- Employ innovative educational models with strong emphasis on the humanistic, social and ethical aspects of medicine and the biomedical sciences.
- Foster a climate of community involvement that encourages students and faculty to participate in outreach programs that reach underserved populations.
- Utilize the varied resources of The Texas A&M University System, The Texas A&M Health Science Center, and clinical affiliates.
- Conduct high quality, nationally recognized programs of research in the biomedical, clinical, behavioral and health services disciplines.
- Strive to improve the quality and efficacy of health and medical care through programs of medical education and research. (TAMHSCOAR, 2009, p. 178)

Accreditation

The TAMHSC received accreditation by the Commission on Colleges of the Southern Association of Colleges to award baccalaureate, master's, doctoral, and professional degrees in 2002 (Southern Association of Colleges and Schools Commission on Colleges, p. 2, para, 3). The TAMHSC-COM was awarded accreditation by the LCME in 2004 (Liaison Committee on Medical Education, 2013). In 2013, the TAMHSC became an entity of Texas A&M University.

Facilities

Previously existing buildings on the TAMU campus, located in College Station, Texas, provided classrooms and laboratory facilities for the first- and second-year TAMU-COM students from the fall 1977 term until the opening of the Joe H. Reynolds Medical Building in the fall of 1983. The Reynolds Medical Building, located on the west campus of TAMU, provided lecture halls and student and research laboratories, in addition to administrative, department, and faculty offices (TAMUOAR, 1983). The third- and fourth-year students received clerkship training at the Scott & White Memori-

al Hospital and Clinic and the Olin E. Teague Veteran's Center in Temple, Texas (TAMUOAR, 1984).

By 2007, instruction for first- and second-year students was offered at both the College Station Campus and the Scott & White Temple campus. In 2009, the addition of the TAMHSC-Round Rock campus offered clerkship training for third- and fourth-year medical students (TAMHSCOAR, 2009). In 2010, first- and second-year COM College Station students began classes at the newly constructed TAMHSC complex in Bryan, Texas. In 2011, the addition of the TAMHSC-COM Dallas campus offered clerkship training for third- and fourth-year medical students.

Demographics and Enrollment

Over the years 1950-2005, a decline was noted in the rural population of Texas from 37.3% to 14% (Combs, 2008, pp. 6-7). Although the US Census (2000) reported that Texas had the largest rural population in the US, with approximately 3.6 million individuals residing in rural areas, it was projected that the portion of the state's population living in rural areas would fall to 14 percent by 2005 (p. 7).

The continued shift of the Texas population from rural to urban presents challenges for health care delivery in sparsely populated regions.

Rural areas account for 73% of all health manpower shortage areas as designated by the federal government. Rural areas have only 53 physicians per 100,000 population whereas the nation's urban areas possess 163 physicians per 100,000 population. It is expected that within the next five years, one quarter of the physicians practicing in rural America will retire. (DeLeon, Wakefield, Schultz, Williams, & VandenBos, 1989, p. 1299)

The TAMU-COM was established to provide physicians for the underserved non-urban populations of Texas and to help alleviate the nationwide shortfall of physicians predict-

ed by the end of the 1980's. To meet the need for an increased number of physicians by the end of the 1980's as well as prevent the anticipated shortage of 50,000 physician by 2010 and 200,000 by 2020 (H.R. 2126, 2003, p. 2), the TAMU-COM and later the TAMHSC-COM continued to increase enrollment over the years.

In August, 1977, the charter class of the TAMU-COM enrolled 32 students. In June, 1981, the first class of 32 students graduated from the TAMU-COM (Black, n.d., para 1). By the fall of 1984, the number of first year students enrolled in the medical college increased to 48. In 2004, the COM increased the number of students admitted into the program to 80. The increase in enrollment in the class of 2004 occurred at least in part as a response to a nationwide decline in the number of minority students entering medical school beginning in 1997 and the continued overall shortage of physicians nationwide. Jordan J. Cohen, AAMC President 1994-2005, addressed the necessity for increased medical school enrollment "The decrease in minorities entering medical school underscores the need for redoubled efforts to attract a critical mass of students from diverse backgrounds in order to enhance the education of all future physicians" (AAMC, 2014).

By 2007, the number of students entering the first year TAMHSC-COM grew from 80 to 100. The 2007 expanded enrollment occurred as a result of "...an effort to address the health needs for the [Texas] state's increasing population" (TAMHSCOAR, 2005, p. 7). In 2009, the number of students entering the medical college increased to 200.

Department of Humanities in Medicine

The Department of Humanities in Medicine (MHUM) was a charter department in the COM. The founding dean of the TAMU-COM, James A. Knight, M.D. (1973-1975) “...strongly believed the future of medicine is dependent on the physician’s capacity to blend the scientific and humanistic aspects of medical practice” (James A. Knight Award, n.d., para1). The mission of the Department of Humanities in Medicine was to provide students with skills that would enable them to explore, identify, and address the ethical issues and problems that occur in the practice of medicine. The department seeks to accomplish the mission by offering required first and second year courses focused on the ethical and social aspects of medicine and a required course in medical jurisprudence during the fourth year. Electives are also offered in the first, second and fourth years.

Dr. Knight in the Role of the Humanities in Medical Education

As the founding dean of the Texas A&M College of Medicine Dr. Knight felt strongly that medical education should include training of medical students in both the science and art of medicine. Following the Flexner report the science of medicine had been well integrated into formal curriculum of medical education. However, the art of medicine, according to Dr. Knight, had not been adequately included in the formal curriculum of medical education. As a result he decided that as dean he would correct that deficient by establishing a Department of Humanities in Medicine in the newly forming Texas A&M College of Medicine. He told me that his interest in the art of medicine lead him to carefully consider what to name this new department. He said that although ethics was the core of humanistic healthcare he realized that the other humanities disciplines, especially history and literature, played an important role in shaping the ethical ideals of a humanistic physician. Therefore, he intentionally named the new department no the Department of Medical Ethics but rather the Department of Humanities in Medicine. Although he always expected that ethics would be the major focus of the department, the first two faculty members that he appointed were an ethicist and and historian. We talked on many occasions of the role and importance of ethics in the curriculum and its importance in shaping the education and character of young physicians. Although he had left the College of Medicine before I was named the Head of the Department of

Humanities in Medicine, he came back with a faculty appointment in the department and participated actively with me in shaping and delivering the ethics curriculum. We chose lecture topics together and co-taught medical ethics classes as well co-taught selectives together. He was always actively involved and said that the art of medicine was too important to be just an add-on the scientific part of medicine medical education; therefore he established a department not just a program out of the dean's office as many other medical school were then doing. Later, while I was department head he was instrumental in getting the McGovern Foundation to endow an annual Lectureship in the Art and Science of Medicine. We worked closely on the lectureship for the first few years because he said he wanted to be sure that it focused on the art of medicine. (Don Self, personal communication, March 5, 2014)

The department sought to accomplish the mission by offering required first and second year courses focused on the ethical and social aspects of medicine and a required course in medical jurisprudence during the fourth year. Electives are also offered in the first, second and fourth years.

In order to achieve the mission, the Department of MHUM has expressed six main goals:

- to educate first and second year students in the basic ethical and social questions confronting the contemporary physician
- to acquaint the student with works in the history of medicine, social medicine and literature as related to medicine
- to integrate ethical and social concerns with the accompanying basic sciences curricula
- to provide sustenance for students with regard to the developing relationship between scientific, technological and humanistic learning in the making of a physician
- to stress the complex interpersonal, social, legal and political factors in the physician-patient relationship (Texas A&M Undergraduate Catalog, 1990, p. 71)
- to increase tolerance of differing values in order to reduce prejudice in health care delivery (TAMHSCOAR, 2005, p. 104)

The departmental goals help to bring about the blending of science and the humanities.

Summary

Following the passage of the Veterans Administration Medical School Assistance and Health Manpower Training Act 1972 (Act Public Law 92-541) and the Teague Cranston Act 1972, Texas A&M University was designated as the state institution of higher learning for the establishment of a new medical college. The TAMU-COM was created in response to the growing need for primary care physicians predominantly focused on the health care needs of individuals in underserved rural and non-urban areas of Texas and to assist in alleviating the shortage of physicians in the health care system and the Department of Veterans Affairs.

The history of Texas A&M University is significant in that the university met the criteria for the funding and building of a new medical college in 1977. In order to be considered as a site of a new medical college, the location of the university had to reside on public land. Additional criterion stipulated that the site was to be near a Veterans Hospital. In 1991, the board of regents for the Texas A&M University System created the TAMU-HSC with the COM as the primary focus of the program. The entry of the COM into the TAMU-HSC in 1991 and finally into the TAMHSC in 1999 provided students with experience in areas of multidisciplinary collaboration with other health care entities.

To help alleviate the US physician shortage, the COM has continued to increase in the number of medical students enrolled. The 1977 charter class of the TAMU-COM was 32 students. The 2009 enrollment of the TAMHSC-COM was 600. The 2013 enrollment was 770 (TAMHSCOAR, 2013, p. 14).

The Department of Humanities in Medicine (MHUM) is a charter department in the COM. The department gives students opportunities to become familiar with ethical issues in the practice of medicine.

This chapter presented a brief history of the creation and development of the COM at Texas A&M University and later at the TAMHSC. The next chapter will examine the curriculum of the TAMHSC-COM.

CHAPTER IV

CURRICULUM MATTERS

Introduction

Medical education programs leading to the M.D. degree maintain accreditation by meeting criteria established by the LCME. The goal of the accreditation process by the LCME is to ensure that students receive the highest standards of medical education in order to effectively deliver medical care to patients. The COM Curriculum Committee is responsible for the design, implementation, and evaluation of the curriculum. The curriculum committee determines the length and depth of program courses.

A brief overview of LCME accreditation standards for medical schools, including requirements for teaching ethics in the curriculum, will be presented in this chapter. Also included in this chapter will be a review of the structure and responsibilities of the COM Curriculum Committee.

Liaison Committee on Medical Education

Accreditation by the LCME “is a process of quality assurance in postsecondary education that determines whether an institution or program meets established standards for function, structure, and performance” (LCME: Overview: Accreditation and the LCME, 2013, para. 1).

The LCME (2008) guidelines stipulate that the medical education faculty is responsible for creating and defining the objectives of the medical school program. The objectives serve as guidelines for the curriculum and provide a foundation for evaluating program effectiveness. The objectives delineate what students are expected to learn or

accomplish throughout the course of the program (p. 6). The objectives of the medical education program must be presented in outcome-based terms of student academic achievement that include the areas of knowledge, skills, behaviors, and attitudes (p. 5).

According to LCME (2008) guidelines, the medical education program should consist of at least 130 weeks of instruction. The medical faculty must create and design a curriculum that offers a professional education. The curriculum must prepare students for entrance into medical education (p. 6).

The medical school curriculum should include opportunities for active learning and independent study in order to help students develop lifelong learning skills. “These skills include self-assessment on learning needs; the independent identification, analysis, and synthesis of relevant information; and the appraisal of the credibility of information sources” (LCME, 2008, p. 7). The program faculty must provide students with opportunities for instruction and experience in utilizing these skills. In addition, students should be provided with an assessment and evaluation of their performance.

Curriculum and Curriculum Management

The curriculum of a medical education program should help medical students develop skills of critical judgment based on evidence and experience as well as the ability to employ principles and skills used in identifying and solving problems regarding disease and health (LCME, 2010). The medical education program curriculum should include up to date information in the basic sciences, current therapy and technology, understanding of disease processes, and the effects of social needs and demands on the care of patients.

Medical education faculty must be responsible for the design and implementation of the curriculum and should possess proficiency in curricular design, pedagogy, and evaluation (LCME, 2008, p. 12). The responsibilities of the faculty include the development of course curriculum, assessment methods, review and evaluation of course content and instruction (LCME, 2010).

Content

Program topics are subject to the goals and objectives of the individual medical education program. The LCME specifies that the program curriculum must include behavioral and socioeconomic subjects and basic science and clinical courses. Other LCME guidelines require medical education programs to include skills for effective communication relating to patients, their families, colleagues, and other health professionals.

In addition, LCME guidelines require that students should receive instruction in the principles of medical ethics and human values necessary for caring for patients and relating to patient's families.

Each school should assure that students receive instruction in appropriate medical ethics, human values, and communication skills before engaging in patient care activities. As students take on increasingly more active roles in patient care during their progression through the curriculum, adherence to ethical principles should be observed and evaluated, and reinforced through formal instructional efforts.

In student-patient interactions there should be a means for identifying possible breaches of ethics in patient care, either through faculty/resident observation of the encounter, patient reporting, or some other appropriate method.

"Scrupulous ethical principles" imply characteristics like honesty, integrity, maintenance of confidentiality, and respect for patients, patients' families, other students, and other health professionals. The school's educational objectives

may identify additional dimensions of ethical behavior to be exhibited in patient care settings (LCME, 2008, p. 10).

Medical Program Teaching and Evaluation of Program Effectiveness

Faculty or residents who serve as teachers or supervise medical students and graduate students and postdoctoral fellows must be familiar with the educational objectives of the course or clerkship and be prepared for their roles in teaching and assessment (LCME, 2008, p. 10). The curriculum of medical school programs must include a system for current and ongoing assessment of student achievement in the areas of knowledge, skills, behaviors, and attitudes. This system of assessment should encompass the structure and frequency of examinations, as well as support the goals, objectives and expected outcomes of the curriculum (p. 11).

Texas A&M Health Science College of Medicine Curriculum Committee

According to the Texas A&M Health Science Center College of Medicine By-laws (2009), the Curriculum Committee consists of equal numbers of basic science and clinical faculty from the COM not to exceed a total of 10 members. The faculty is responsible for nominating both voting and alternate members of the committee. Voting and alternate members are chosen from a list of nominees and appointed by the Dean. The Dean of the COM selects the chair of the curriculum committee from the membership. The curriculum committee holds scheduled meetings monthly (p. 11).

The Curriculum Committee has three main areas of responsibility:

1. Establishment of the requirements for the Doctor of Medicine degree.
2. Overall design and evaluation of the curriculum.
3. Alignment of all curricular offerings with the College of Medicine's curricular goals and objectives to ensure student attainment of stated competencies Texas A&M Health Science Center College of Medicine Bylaws, 2009, 11).

The Curriculum Committee continuously monitors the curriculum of the COM and makes modifications as necessary.

Summary

This chapter presented a brief overview of the responsibilities required by the LCME in order to achieve and maintain accreditation for medical education programs leading to the M.D. degree in the United States. The function of the COM curriculum committee is to create a curriculum that meets the LCME standards of accreditation and ensures student attainment of the TAMHSC-COM curricular competencies. LCME guidelines for student instruction in the principles of medical ethics are also included in the chapter.

The next chapter provides a brief history of the COM curriculum. The curriculum will be presented as the plan for the COM to achieve the goal of delivering medical education to students.

CHAPTER V
A BRIEF HISTORY OF THE COLLEGE OF
MEDICINE CURRICULUM

Introduction

The curriculum usually reflects the goals and objectives of an academic program. The curriculum, in many instances, both emphasizes areas of learning felt to be of great value to the student and de-emphasizes areas deemed of less value. In broad terms, the curriculum reveals the program's overall plan for learning.

In order to see how the study of bioethics has been incorporated into the curriculum at the Texas A&M Health Science Center College of Medicine, it is necessary to look at the development of the curriculum from the inception of the medical school in 1977 through the scope of this dissertation ending in 2009. A review of the COM curriculum will help to provide insight into how the curriculum developed and the place that ethics and bioethics held in the curriculum.

This chapter will look at the four year COM curriculum composed of the basic sciences years, or the first and second years of medical instruction, and the clerkship years, or the third and fourth years of the educational program. An overview of the course offerings and approximate hours of instruction in the basic science years and the clerkship years will also be included as well as various elective experiences offered throughout the program.

College of Medicine Curriculum

The Doctor of Medicine degree requires the completion of four years of study. The first two years of course work provide students with a foundation in the basic medical sciences as well as a rudimentary introduction to clinical skills. During the third and fourth years of the curriculum, students receive training, or clerkship experiences, in core clinical disciplines. The clinical clerkships provide students with opportunities to apply in practice the knowledge and skills gained in the basic sciences curriculum in clinical settings. Electives offered over the four year COM program allow students to pursue area of individual interest

Basic Sciences Years

Year 1

When the TAMU-COM opened in the fall of 1977, the curriculum for each of the two basic sciences years was delivered over two academic terms of 15 weeks. The curriculum provided a knowledge base for the third and fourth years of the program.

Beginning in 1977, the first-year basic science curriculum included course offerings such as Gross Anatomy, Microscopic Anatomy (Histology), Neurobiology/Neuroscience, Physiology, and Biochemistry (Biochemistry/Genetics). Other course offerings in the first year curriculum consisted of Working with Patients, and Medicine and Human Values: Introduction to Medical Ethics. The overall course offerings and contact hours remained unchanged from 1977-1980. For example, in 1977-1980, students enrolled in the gross anatomy course received 180 contact hours of instruction per

year. Medicine and Human Values: Introduction to Medical Ethics, delivered 60 contact hours of instruction per year throughout the three year period (Table1).

Table 1 First year course offerings 1977-1980 (hours per year)

Academic Terms	77-78	78-79	79-80
Gross Anatomy 901/902	180*	180	180
Microscopic Anatomy 911/912	105	105	105
Neurobiology/Neuroscience 921/922	105	105	105
Physiology 901/902	165	165	165
Biochemistry 911/912	165	165	165
Medical Humanities 911/912	60	60	60
Working With Patients 911/912	120	120	120

*To facilitate the comparison on curriculum offerings, all lecture/lab designations were converted to contact hours per year.

Note: Information compiled from TAMU Undergraduate Catalogs 1977-1979.

Over the 18 year period 1980-1998, the first year science courses offered in the curriculum remained the same as in previous years. Changes in the curriculum, however, occurred with the addition of several clinical courses and in the number of contact hours allocated in various courses. For example, in 1980, the Epidemiology/Biomeasurements/Environmental Medicine course was added to the curriculum. The focus of the course was to aid students in the understanding and interpreting statistical information of the basic sciences and clinical medicine. Over the years 1980-1998, the Medicine and Human Values: Introduction to Medical Ethics course hours varied between 32-60 contact hours of instruction per year (Table 2).

Table 2 First year course offerings 1981-2000 (hours per year)

1st Year	80-81	81-83	83-84	86-88	88-90	90-92	92-94	94-96	96-98	98-00
<hr/>										
Academic Terms										
Gross Anatomy**	192*	192	192	192	192	192	192	192	192	192
Micro. Anatomy	96	96	96	96	96	96	96	96	96	96
Neuroscience	96	108	102	102	102	102	102	102	102	102
Physiology	168	164	164	164	164	162	162	162	162	162
Biochemistry	168	164	164	164	164	168	168	168	168	168
MHUM	48	48	48	48	48	48	48	32	32	48
W. W. Pt. (Intro to Pts.)	108	108	108	22	22	22	22	22	22	22
Leadership in Med.								32	32	32
Epi/biome/envmed†	48	48	48	48	48	48				
Behavioral Science					36	36	36	36	36	36

*Beginning with the 1980 school year, all course listings were by contact hours.

**Course titles were changed but for the purpose of this study, courses with like content were listed on the same row.

†Epidemiology/Biomeasurements/Environmental Medicine

Another addition to the curriculum was the addition of the Introduction to Physical Diagnosis course, in 1986. The Physical Diagnosis course introduced students to medical history taking and physical examinations and was offered over 48 hours in the spring semester. The Working With Patients required course, offered during the fall semester, served to acquaint students with methods of physician-patient interaction in various medical settings. Furthermore, in 1986, the Working With Patients course was decreased from 108 hours in the fall semester to 22 hours. The decrease in course hours coincided with the addition of the Introduction to Physical Diagnosis course to the curriculum along with changes in the faculty of the Department of Family and Community Medicine.

By 1992, the Epidemiology/Biomeasurements/Environmental Medicine topic was deleted from the curriculum and the topic content was likely included in the basic science and clinical courses. In 1994, the Leadership in Medicine course was added to the curriculum. The purpose of the course was to prepare students to assume leadership roles in society, the practice of medicine, and in the broader scope of health care. To provide room in the curriculum for Leadership in Medicine course, the number of hours in the Medicine and Human Values: Introduction to Medical Ethics course was decreased from 48 hours in 1993 to 32 in 1994.

By 2001, the basic science curriculum established during the previous years of the program remained unchanged (Table 3). The basic science and clinical courses, however, were organized and taught as separate courses in organ system-based blocks. The basic sciences and clinical course content was relevant to the organ system block under study. Students received a separate grade for each course taught in the block.

Beginning in 2001, the first-year clinical courses were placed under the heading of Becoming a Clinician I (BAC I). The clinical courses under the BAC I designation included Medicine and Human Values: Introduction to Medical Ethics, Working With Patients, Introduction to Physical Diagnosis, Leadership in Medicine, and Clinical Skills in Psychiatry. The Medicine and Human Values: Introduction to Medical Ethics course (2001) continued to deliver 32 contact hours of instruction per year throughout the rest of the study period.

Table 3 Course offerings 1998-2009

Academic Terms	96-98	01-03	03-05	05-07	07-09
Gross Anatomy 901	192	162	162	162	162
Histology (Microscopic Anatomy)	96	108	108	108	108
Neuroscience (922)	102	126	126	126	126
Physiology	162	144	144	144	144
Biochemistry/Genetics	168	180	180	180	180
Becoming a Clinician I					
*Humanities in Medicine	32	32	32	32	32
*Working With Patients	22	22	22	22	22
Intro Physical Diagnosis	48	32	32	32	32
*Leadership in Medicine	32	32	32	26	32
Electives - Medical Humanities in Medicine		16	16	16	16
Behavioral Science	36				

*Courses included under heading of BAC I.

Note: Information compiled from TAMU-COM and TAMHSC-COM Catalogs 1996-2009.

Data for 2000-2001 not available.

By 2005, the basic sciences and clinical courses were taught as integrated topics relevant to the organ system block being studied. Students received an overall grade for each organ system block rather than individual grades for basic sciences and clinical courses.

In addition, elective courses for first and second year students are offered in the Department of Humanities in Medicine. Examples of such courses are Mentorship in Leadership, Ethics of Human Sexuality, and Medicine and Society Through Film.

Year 2

During the second year, the medical school curriculum continued to build upon the basic sciences curriculum established in the first year. Also, students further devel-

oped clinical skills by shadowing physicians in office settings and through a preceptorship program.

Over the years 1977-1980, the overall course offerings and contact hours remained unchanged. The second year basic science curriculum included courses such as Pharmacology, Microbiology (Microbiology of Infectious Diseases, Microbiology/Immunology), and Human Pathology (Pathology/Laboratory Medicine). For example, in 1977-1980, students enrolled in Microbiology of Infectious Diseases and Immunology received 150 contact hours of instruction per year. Also, the course offering Psychopathology delivered 30 contact hours of instruction to students per year throughout the three year period (Table 4).

Table 4 Second year course offerings 1977-1978

Academic Terms	77-78	78-79	79-80	80-81
Pharmacology 924	120*	120	120	140
Microbiology Infectious Diseases/Immunology 923/924	150	150	150	156
Human Pathology 923/924	255	255	255	272
Psychopath 923,941,942,943	30	30	30	
Introduction Community Medicine 954	60	60	60	33
Clinical Preceptorship 944	45	45	45	149
Clinical Skills 923	45	45	45	45
Human Development Clinical Medicine 933/934	210	210	210	120
Medicine Interdisciplinary Seminar 981	15	15	15	
Medicine Interdisciplinary Patient Topics	45	45	45	

*To facilitate the comparison on curriculum offerings, all lecture/lab designations were converted to contact hours per year.

Note: Information compiled from TAMU Undergraduate Catalogs 1977-1979.

Beginning in 1980, changes in the curriculum occurred with the addition and deletion of several clinical courses as well as in the number of contact hours assigned in various courses. In 1980, the Clinical Skills course was discontinued and the course content was likely incorporated into the Introduction to Medicine course and the Clinical Psychology course. Also, in 1980, the contact hours for Human Development in Clinical Medicine, a multidisciplinary survey of clinical medicine centering on human development, were decreased from 210 to 120 and the course was discontinued in 1983. Furthermore, the topics Obstetrics/Gynecology and Pediatrics became separate courses in the curriculum in 1983. It is likely the Human Development in Clinical Medicine course content concerning human sexuality was integrated into the Obstetrics/Gynecology and Pediatric courses (Table 5).

In 2001, the clinical courses in the second year curriculum were placed under the heading Becoming a Clinician II (BAC II). The clinical courses placed under the designation of BAC II consisted of Psychiatry (psychopathology, Introduction to Clinical Psychiatry), Human Development and Clinical Medicine (Introduction to Community Medicine), Clinical Skills (Introduction to Medicine), Clinical Preceptorship in Primary Care Medicine, Introduction to Obstetrics/Gynecology, and Introduction to Pediatrics (Table 6).

In 2001, the second year basic science and clinical courses were organized as organ-system blocks and taught as separate courses in the block. The basic science and

clinical course content coincided with the organ system block under study. Students received a separate grade for each course taught in the block.

Table 5 Second year course offerings 1979-1981

Academic Terms	79-80	80-81	81-82	82-83	83-84	84-85	85-86	86-88	88-90	90-92	92-94	94-96	96-98
Pharmacology 923/924/925	120	140	140	140	146	146	146	146	146	130	130	130	130
Microbiology/Immunology	150	156	156	156	164	164	164	164	164	170	170	170	170
Pathology 923/924/925	255	272	272	272	272	272	272	272	272	265	265	265	265
Clinical Psychology 941/942/943	30	33	33	33	63	63	63	63	63	50	50	50	50
Introduction to Medicine	60	149	149	149	156	156	156	156	156	134	134	134	134
Clinical Skills Preceptorship	45												
Primary Care Medicine	45	45	45	45	45	45	45	45	45	45	45	45	45
Introduction Obstetrics/Gynecology					50	50	50	50	50	31	31	31	31
Introduction Pediatrics					40	40	40	40	40	33	33	33	33
Human Development Clinical Medicine	210	120	120	120	120								
MHUM - Electives												x	x

*To facilitate the comparison on curriculum offerings, all lecture/lab designations were converted to contact hours per year.
Note: Information compiled from TAMU Undergraduate and TAMU-COM Catalogs 1979-1998.

Over the years 2005-2009, the second year basic science and clinical courses were taught as integrated topics that coincided with the organ system block study. Students received an overall grade for each organ system block in place of individual grades for basic science and clinical courses.

Electives for second year students included Mentorship in Leadership, Medicine and Society Through Film, Ethical Issues in Human Sexuality, and Anatomy Yoga and Critical Approach to Medical Literature. Medicine-Interdisciplinary Seminar and Medicine-Interdisciplinary Special Topics were also offered as elective topics in the curriculum.

Table 6 Second year course offerings 1996-2009

Academic Terms	96-98	01-03	03-05	05-07	07-09
Pharmacology	130	144	144	144	144
Microbiology/Immunology	170	162	162	162	162
Pathology/Laboratory Medicine	265	216	216	216	216
*Becoming a Clinician II					
*Introduction to Clinical Psychiatry	50		54		
*Introduction to Medicine	134		108	114	
*Clinical Preceptorship in Primary Care Medicine	102		108		
*Introduction to Obstetrics/Gynecology	31		54		
*Introduction to Pediatrics	33		54		
MHUM - Electives		X	x	x	x
Selectives			20	20	20
*Critical Approach Medical Literature					

*Courses included under heading of BAC I.

Note: Information compiled from TAMU-COM Catalogs 1996-1998 and TAMHSC-COM Catalog 2001-2009.

Clerkships

Year 3

The third year of the medical school curriculum at the TAMHSC-COM consists of 48 weeks of instruction delivered through required clerkships. Over the years 1977-1998, the COM offered a total of six core clinical clerkships per academic term. Beginning in 1977, the third-year curriculum consisted of five clinical clerkships. The required core clerkships were Internal Medicine (12 weeks), Surgery (12 weeks), Obstetrics and Gynecology (8 weeks), Pediatrics (8 weeks), and Psychiatry (8 weeks). By 1994, the sixth clerkship, the Family Medicine Clerkship (6 weeks) was added to the curriculum. When the Family Medicine clerkship was added, the Obstetrics and Gynecology, Pediatrics, and Psychiatry clerkships were each decreased from 8 weeks to 6 weeks. The Internal Medicine and Surgery clerkships remained 12 weeks apiece.

Furthermore, several required courses were added to the third-year curriculum. Over the years 1977–1979, Clinical or Practical Therapeutics was a topic in the curriculum, although there were no credit hours assigned to the course. In 1980, Practical Therapeutics was introduced and delivered over 96 hours in the academic year. Practical Therapeutics, however, was not listed in subsequent years in the curriculum and it is likely that the course content was delivered throughout various third-year clerkships. Also in 1980, Principles of Radiology, a required 18 hour course on the methods of medical imaging specific to clinical problems, was incorporated into the curriculum. Lastly, the Basic EKG and Echocardiography course was offered in 1984 but was discontinued

in 1992. The course was likely taught as part of the Internal Medicine Clerkship in successive years (Table 7).

Since 1998, there were no changes in the third year curriculum. The six core clinical clerkships continued to be offered in the third year curriculum. The Principles of Radiology course continued to be delivered over 18 hours.

Table 7 Second year course offerings 1980-1998

Academic Terms	80-81	81-82	82-83	83-84	84-85	85-86	86-88	88-90	90-92	92-94	94-96	96-98
Internal Medicine	12	12	12	12	12	12	12	12	12	12	12	12
Surgery	12	12	12	12	12	12	12	12	12	12	12	12
Obstetrics/Gynecology	8	8	8	8	8	8	8	8	8	6	6	6
Pediatrics	8	8	8	8	8	8	8	8	8	6	6	6
Psychiatry	8	8	8	8	8	8	8	8	8	6	6	6
Principles of Radiology#	18	18	18	18	18	18	18	18	18	18	18	18
Practical Therapeutics	96											
Basic EKG-ECG					10	10	10	10	10	10		
Family Med										6	6	

*numbers indicate the number of weeks the course was offered

#numbers indicate hours the topic was taught in a year

Year 4

The fourth year of the medical curriculum is composed of 40 weeks of instruction delivered through required courses, and electives. Students obtain clinical training in inpatient and outpatient settings. The main TAMHSC-COM campuses are located across the state of Texas in the cities of College Station, Dallas, Temple, Houston, and Round Rock. In addition to completing the required courses, students also choose elec-

tives in within and as well as outside of the specialties areas they hope to pursue. Elective choices can include research, courses at other medical schools, or individualized electives apart from the medical school environment.

Over the years 1977–1990, the fourth year course consisted of a 16 required Out-patient Medicine (Ambulatory Medicine) course, a four week Primary Care Medicine (Family Practice) course, a four week Neurology course, and an 18 hour Medical Jurisprudence course. In addition, students completed 20 weeks of electives choices per academic term. The electives consisted of elective choices related to the student's area of medical practice specialty and career goals.

In 1992, the Primary Care Medicine course was combined with the Primary Care Medicine (Family Practice) course resulting in a total of 32 weeks rotations per academic year. Neurology continued as a required 4 week elective. Also, the, Alcohol/Drug Dependency was added to the curriculum as a required 2 week elective. In addition, the Didactics course (Professionalism IV, Becoming a Clinician IV [BAC IV]) course was introduced into the curriculum in 1992. The course included topics such as Medical Jurisprudence, Epidemiology/Public Health/Biomeasurements, and Humanities.

Over the years 1996–2009, students were required to complete 32 hours of required courses (Acting Internships), per academic term. Elective areas included the student's chosen area of specialty as well as electives outside of the student's area of career choice. Required courses to be completed by students encompass the two week Alcohol and Drug Dependence rotation, and the two week Professionalism IV course.

Summary

The review of the Texas A&M College of Medicine curriculum provided insight into how the curriculum developed and revealed the program's overall plan for learning. Over the years 1977-2009, the first two years of the curriculum gave students a foundation in the basic medical sciences and an introduction to clinical skills. Of all the courses offered in this 22 year period, the one constant that consistently and explicitly provided a venue for instruction and discussion was MHUM 911: Medicine and Human Values: Introduction to Medical Ethics.

In 2001, the basic science and clinical courses were organized and taught as separate courses in organ system-based blocks. The basic science and clinical course content was relevant to the organ system block under study. Students received a separate grade for each course taught in the block.

During the third and fourth years of the curriculum, students receive training in core clinical disciplines. The clinical clerkships provided students with opportunities to apply in practice the knowledge and skills gained in the basic science curriculum in clinical settings.

By 2005, the basic science and clinical courses were taught as integrated topics relevant to the organ system block being studied. Students received an overall grade for each organ system block in place of individual grades for basic science and clinical courses.

This chapter presented an overview of the history of the COM curriculum. The next chapter will provide the analysis and data results of the study.

CHAPTER VI

PRESENTATION AND ANALYSIS OF DATA

Introduction

This chapter presented the results of this study question, “How has the study of bioethics been implemented and taught in the medical school curriculum at the Texas A&M Health Science Center College of Medicine”? In order to answer the research question, an examination and analysis of the Texas A&M College of Medicine catalogs and bulletins, syllabi, and analysis of prominent books used over the course of the study was conducted.

Catalogs and bulletins provide information about academic programs and courses offered at institutions such as universities and colleges of medicine. This chapter will review the Texas A&M College of Medicine catalogs and bulletins over the years 1977-2009, with the exception of the 1999-2000 missing catalogs, for the purpose of identifying bioethics in the curriculum.

Syllabi are usually designed to communicate information to students about the purpose, objectives, content, and evaluation methods of a course. The syllabi serve as an agreement, or contract, between the student and instructor regarding the responsibilities of the student and the expectations of the instructor. This chapter will include an examination and analysis of how often students were exposed to bioethics in course and lecture topics.

This chapter will also include an analysis of how often students encountered bioethics in the course readings of the syllabi. In order to determine how often students

would encounter bioethics in their readings, a deeper analysis of the major texts was conducted. The analysis will include five books, including varied editions, used at least four years over the years in the course of the study. An examination of references and cross-references of ethical and bioethical citations of each book was conducted. The results of each analysis will be reported in a brief summary at the conclusion of the individual books.

Catalog General Descriptions

The 1977-2008 and the 2001-2009 COM catalogs and bulletins were reviewed for the purpose of locating and identifying bioethics in the curriculum. The 1999-2000 COM catalogs were unavailable for examination.

The General Statement section of the TAMU Undergraduate Catalog (1976) outlined the proposed curricular offerings for the new College of Medicine that would begin the following year. The first year of the basic sciences curriculum included a proposed program of instruction in the humanities in medicine. In addition, a required course in medical ethics was to be taught by the faculty in the Department of Humanities in Medicine. The TAMU Undergraduate Catalog (1977) stated that the goal of the humanities in medicine program was to “create the type of humanistic medical environment that nurtures social consciousness and idealistic concerns” (p. 227). However, there was no mention of a bioethics or of a medical ethics course offering in the general statement section of the 1977 catalog.

Beginning in 1979, the General Statement section of the TAMU Undergraduate Catalog noted that an important aspect of medical education was to help students devel-

op analytical thought processes in order to arrive at “well thought-out moral and ethical viewpoints” (p. 237). The 1979 catalog further stated that course offerings in ethics served as a means by which students had the opportunity to gain ethical awareness. There were no changes noted regarding the reference to ethics in the General Statement sections of the TAMU Undergraduate Catalogs over the years 1980-1985.

Over the years 1986-1990, the Curriculum sections of the TAMU Undergraduate catalogs and the TAMU-COM catalogs included first year course offerings in humanities in medicine and further stated that electives in the areas of ethical problems in medicine were available in both the basic sciences and clinical sciences years. Throughout the years 1992-2009, the curriculum sections of the TAMU-COM Bulletins and the TAMHSC-COM Catalogs emphasized the importance of the inclusion of ethics in the medical school curriculum.

The ethical and social aspects of medical practice receive special emphasis in the curriculum. The Department of Humanities in Medicine provides lecture, discussion, and small group case studies that focus on the humanistic concerns of the ethics of modern medicine. (Texas A&M University College of Medicine Bulletin, 1992, p.61)

In addition, the importance of the role of ethics in medical education was stated in the TAMHSC-COM Catalogs:

Medical education, of course, involves much more than the transfer of scientific information and techniques of patient care. A physician must cultivate a thoughtful moral and ethical outlook. Faculty members expect students to have high ethical standards...formal classes in ethics and humanities are provided to reinforce the fundamental influence of committed role models. (TAMHSC-COM Catalog, 2001, pp. 149-150)

The term bioethics was not found in the areas of the General Descriptions sections of the examined catalogs.

Catalog Course Description of Medical Humanities Course 911

Examination of the TAMU-COM undergraduate, the TAMU-HSC graduate, and the TAMHSC-COM catalogs revealed that the description for the first-year Department of Humanities in Medicine course, Medicine and Human Values: Introduction to Medical Ethics, remained unchanged over the years 1976 (year prior to opening of TAMU-COM) catalog through 2009. Although the course description included medical ethics, the specific term bioethics was not mentioned: “Basic issues in medical ethics, focusing on the character of the patient-physician relationship” (TAMU Undergraduate Catalog, 1976, p. 353). In addition, a review of the MHUM Seminar-981 course description showed that lectures in selected topics in medical ethics were presented by faculty and visiting lecturers. The course description for MHUM Problems-985 offered directed individual study topics of specialized areas of medical ethics. Furthermore, bioethics was not mentioned in the descriptions of other courses or electives offered in the department.

Overview of Medical Humanities Course 911

Syllabi

Nineteen syllabi for the course Medicine and Human Values: Introduction to Medical Ethics was found. Syllabi was from the years 1983-1984, 1984-1985, 1985-1986, 1986-1987, 1987-1988, and 1989-1990 included the name of the course director or course directors. Over the years 1983-1988 the course was co-directed by Don Self, Ph.D. and John J. McDermott, Ph.D. In the 1989-1990 academic year, Don Self, Ph.D. served as course director. Each syllabus included course purpose, objectives, requirements, readings, and a calendar of topics to be covered during the term.

Syllabi was over the years 1994, 1995, 1996, 1997, 1998, 2000, 2001, 2002, 2003, 2004, 2005, 2008, and 2009 included the name of the director or course director. Six faculty served as course directors between 1994 and 2009: Don Self, Ph.D. (1994, 2000, 2008, 2009), Herman Saatkamp, Ph.D. (1996, 1997), Paxton Howard, M.D., (1998), R. Dennis Bastron, M.D. (2001, 2002), and Mary Elizabeth Herring, J.D. (2003, 2004, 2005). Each syllabus included course purpose, objectives, requirements, readings, and a calendar of topics to be covered during the term.

Over the years 1983-1988 and 1989-1990, the Medicine and Human Values: Introduction to Medical Ethics 911 course was delivered once a week for 23-24 weeks. Classes were 3 hours long. Each session consisted of a two-hour lecture followed by a one-hour film or small-group discussion. Students were required to read assigned materials and participate in class discussions.

Over the years 1990–2009, the Medicine and Human Values: Introduction to Medical Ethics course was delivered once a week for 17-19 weeks. Classes ranged from 1½hrs. to 2 hours in length. The course format consisted of a one hour lecture followed by small group case study, discussions, or panel discussions. Students were required to read assigned materials and participate in class discussions. There was a sense among the faculty that students may not have read the course texts. The content of the lectures covered the material in the texts although the course was not taught directly from the text. (Don Self, personal communication, March 13, 2014). In addition, course grading varied over the years from “pass or fail to a letter grade”. The perception of a number of the culty teaching the course was that grading was never taken seriously by the students

and that this course was given less emphasis compared to other basic science courses (Don Self, personal communication, March 13, 2014).

Analysis of Course Topics and Texts

Course Topics

An examination and analysis was conducted of course topics in the nineteen available syllabi for the Medicine and Human Values: Introduction to Medical Ethics. The results of the examination and analysis revealed only three class lectures that presented bioethics as a course topic. In 2003, James R. Wild, Ph.D. presented a lecture titled “Genetics and Bioethics”. Also, Gül Russell, Ph.D. (2005, 2006) offered a lecture titled “From Hippocrates to the Emergence of Bioethics: Critical Cases”. Across the years, other course lectures included “Ethical Issues in Genetic Research and Medical Practice,” “Principles of Medical Ethics,” “Patient Autonomy in Decision Making,” “Allocation of Limited Resources,” “Honesty and Truth-telling in Medicine,” “Principles of Ethics & Working Through Ethical Dilemmas,” “Medical Practice in Historic Perspective,” and “Confidentiality.”

Texts

Review of the course texts in the available syllabi included one or more categories: Texts or Required Texts, Recommended Texts, or Other. Texts were not available for review in the 1994 syllabus. From the syllabi, 5 books were found to be generally used over the years. The texts used in at least 4 years included *Principles of Biomedical Ethics*, *Introduction to Clinical Ethics*, *Clinical Ethics*, *Medicine as a Human Experience*, and *Medical Ethics* (Table 8).

Table 8 Major texts and authors used at least 4 years 1985-2009

Books	
Major Texts	Years Used
<i>Principles of Biomedical Ethics</i> (Beauchamp & Childress, 1983)	86-87, 87-88
<i>Principles of Biomedical Ethics</i> (Beauchamp & Childress, 2001)	2003, 2004, 2005, 2008, 2009
<i>Introduction to Clinical Ethics</i> (Fletcher, Hite, Lombardo & Marshall, 1995)	2003, 2004, 2005
<i>Introduction to Clinical Ethics</i> (Fletcher, Hite, Marshall & Miller, 1997)	2002
<i>Clinical Ethics</i> (Jonsen, Siegler & Winslade, 1982)	1985-1986
<i>Clinical Ethics</i> (Jonsen, Siegler & Winslade, 1992)	1995, 1996, 1997
<i>Clinical Ethics</i> (Jonsen, Siegler & Winslade, 1998)	2000, 2001
<i>Clinical Ethics</i> (Jonsen, Siegler & Winslade, 2002)	2002, 2003, 2004, 2005, 2008, 2009
<i>Medicine as a Human Experience</i> (Reiser & Rosen, 1985)	1995, 1996, 1997, 1998, 2000, 2003, 2004, 2008, 2009
<i>Medical Ethics</i> (Veatch, 1989)	1989-1990, 1995, 1996, 1997

Several texts found in the reviewed syllabi were used only for a few years: *The Plague* (Camus, 1972), *Ethics in Medicine* (Reiser, Dyck, & Curran, eds., 1977), *Culture, Disease, and Healing: Studies in Medical Anthropology* (Landy, ed., 1977), *Case Studies in Medical Ethics* (Veatch, 1977), *Encyclopedia of Bioethics* (Reich 1978, 1995), *Handbook of Medical Sociology* (Freeman, Levine, & Reeder, eds., 1979), *Illness as Metaphor* (Sontag, 1979, 1988), *Cases in Bioethics* (Veatch, & Levine, eds., 1982), *Medical Ethics: A Clinical Textbook and Reference for the Health Care Professions* (Abrams & Buckner, eds., 1983), *Intervention and Reflections: Basic Issues in Medical Ethics* (Munson, 1985), *A Piece of My Mind* (Young, 1988), Cambridge Illustrated History of Medicine (Porter, 1996), and *Complications: A Surgeon's Notes on an Imperfect Science* (Gawande, 2002). Other text references included the *New England Journal of Medicine*, current journals of ethics, and the Medical Humanities Reserve Section of the Learning Resource Center at the COM for additional literature pertaining to the course.

Analysis of Texts

In order to determine how often students would encounter bioethics in their readings, a deeper analysis of the major texts was conducted. The analysis consisted of five books used at least four years during the course of this study.

Clinical Ethics (1982)

Clinical Ethics (Jonsen, Seigler, & Winslade,) was a required book in 1985 and over the years 1995-2009 with the exception of 2001 where it was listed as a recommended text. *Clinical Ethics* (1982) was a required text from 1985-1986. The book offers a systematic approach to ethical decision-making for physicians faced with ethical

dilemmas in the care of patients in a clinical setting. The authors suggest that in order to deliver quality care in the clinical setting, physicians must possess not only an understanding of ethical principles but the ability to apply this knowledge in ethical issues. Jonsen, Seigler, & Winslade define clinical ethics as "...the identification, analysis, and resolution of moral problems that arise in the care of a particular patient." The authors also address the limited reference to bioethics in the text:

...this book is not written for philosophers but for physicians who are responsible for making clinical judgments about diagnosis and treatment for their patients. The authors judge that this audience needs a systematic approach for those decisions rather than a theory to elucidate (or obfuscate) the philosophy behind that approach. We have drawn on those theories, yet we refrain from theoretical analysis or discursus. We refer our readers to the *Encyclopedia of Bioethics* (EB) and to our other bibliographical citations for the deeper and broader discussion of the issues we treat so briefly. (Jonsen, 1982, p. 4)

Clinical Ethics (1982) contains a Table of Contents and a Locator [Index]. The Table of Contents guides the reader to the topics in each chapter. The Locator is organized alphabetically by topics with references to sections of the book relevant to topical areas. The book begins with an introductory chapter and is divided into of four chapters. The chapters are titled "Medical Indications," "Patient Preferences," "Quality of Life," and "External Factors." Each chapter addresses a topic of ethical consideration in the decision-making process of clinical ethics. A bibliography section is found at the end of the Introduction and each of the four chapters. References to the *Encyclopedia of Bioethics* (Reich, 1978) are noted in parenthesis following issues discussed in the text. Readers are directed to the General Reference section located at the conclusion of the book for the complete citation for the *Encyclopedia of Bioethics*.

An analysis of the Introduction and each of the four chapters of *Clinical Ethics* (1982) was conducted in order to determine the narrative occurrences of bioethics in the text and the number of references to the *Encyclopedia of Bioethics*. The analysis also included the number of references to other sections of the book.

The analysis of the Introduction showed twenty five instances where terms such as ethics, ethical issues, ethical importance, ethical judgment, and ethical medicine were found while the term bioethics was found once. Four references to the *Encyclopedia of Bioethics* were found in the Introduction. Six references to other sections of the book were found.

Analysis of Chapter 1, “Medical Indications,” revealed twenty uses of terms such as ethics, clinical ethics, ethically, ethical problems, ethical principles, and clinical ethical decisions; the term bioethics was not found in Chapter 1. Seven references to the *Encyclopedia of Bioethics* were found in the chapter. Sixty two references to other sections of the book were found in the text.

Analysis of Chapter 2, “Patient Preferences,” found twenty three uses of terms such as ethical principles, ethical problems, ethical conflict, ethically perilous, ethically permissible, and ethically justified; while the term bioethics was not found in the text. Seven references to the *Encyclopedia of Bioethics* were found in the chapter. Twenty nine references to other sections of the book were found in the text.

Analysis of Chapter 3, “Quality of Life,” revealed thirty seven instances where terms such as ethical deliberations, ethically permissibly, ethical obligations, ethical considerations, and ethical decisions; bioethics was not found in the text. Five references to

the *Encyclopedia of Bioethics* were found in the chapter. Twenty one references to other sections of the book were found in the text.

The analysis of Chapter 4, “External Factors,” revealed thirty six uses of terms such as ethical doctrines, ethical decisions, ethical obligations, ethical options, and ethical judgments; the term bioethics was not found in the text. Sixteen references to the *Encyclopedia of Bioethics* were found in the chapter. Twenty five references to other sections of the book were found in the text.

In addition, an analysis of the chapter bibliographies was conducted. The bibliographies are ordered by sections of the chapters and lists books, articles, and other printed matter not cited in the text but available to a reader who wants further information about a section in the chapter. In 22 entries in the Introduction bibliography, the word bioethics was found once. In the 79 entries in the Chapter One bibliography, the word bioethics did not appear. In the 127 entries listed in the bibliography in Chapter Two, the word bioethics was not found. Ninety five entries were listed in the bibliography of Chapter Three and the word bioethics was not found. In the 82 entries in the Chapter Four bibliography, the word bioethics did not appear in the bibliography. The word bioethics was found only once in the analysis of the Introductory bibliography and the chapter bibliographies.

The General Reference section offers additional resources for ethical and bioethical literature and consisted of listings for Resources, Journals, Anthologies and Collected Essays, Textbooks, Books and Resources in the Roman Catholic Tradition, and

Books and Resources in the Jewish Tradition. There were 47 entries in the General Reference Section. Of the 47 entries, 8 entries included the word bioethics.

Clinical Ethics (1992)

Clinical Ethics (Jonsen, Seigler, & Winslade, 1992) was a required text over the years 1995-1997. The authors offered a method of analyzing the ethical aspects of caring for patients in a clinical setting in order to resolve the ethical problem (p. 2). The authors provided topics for physicians to consider in assessment of ethical issues in clinical decision-making. The authors recommend that physicians become acquainted with literature in the field of ethics and bioethics in order to broaden their foundation for thinking about and analyzing ethical issues that occur in clinical settings. In addition, the authors also directed readers to further references to bioethics in the text.

Clinical Ethics is designed ...in the hope that the practitioner will be able to take on challenging cases with confidence. That confidence can be shored up, by not only having a good method for analysis, but also by being familiar with the literature of bioethics. That literature [bioethics] has become voluminous in the last decade. This book introduces the reader to the literature by citing regularly certain important books, such as Beauchamp and Childress, *Principles of Bio-medical Ethics*. The indices of those books will direct our readers to a more extended discussion of the issues in question. We also refer the relevant titles in the *Encyclopedia of Bioethics*... Those readers who wish to explore further should begin with the Bibliography of Bioethics, published by the Kennedy Institute of Ethics. (pp. 10-11)

Clinical Ethics (1992) included a Table of Contents, a Locator, an Introduction, and a General Reference section at the end of the book. The Table of Contents directed the reader to the topics in each section of the book. The Locator, listed alphabetically,

guided the reader to topical areas in the text. A General Reference section was located at the end of the book.

The book is divided into five chapters titled Medical Indications, Patient Preferences, Quality of Life, External Factors, and, an additional chapter not found in the previous *Clinical Ethics* (1982) edition, Pediatrics and Obstetrics Ethics. The first four chapters introduced the four topics for ethical analysis and decision-making by clinicians in clinical areas. The fifth chapter, “Pediatrics and Obstetrics Ethics”, employed the topical areas presented in Chapters 1-4 to show how they apply to the ethical dilemmas and decision-making that occur in clinical areas concerning the fetus, infants, and children.

An analysis of the Introduction and each of the four chapters of *Clinical Ethics* (1992) was conducted in order to determine the occurrences of the term bioethics in the text, the number of references to the *Encyclopedia of Bioethics*, (Reich, 1978) and the (Beauchamp & Childress, 1989). The analysis also included the number of references to other sections of the book.

The analysis of the Introduction showed thirty two instances where terms such as ethics, clinical ethics, medical ethics, ethical decisions, and ethical considerations were found while bioethics was found four times. In the Introduction, there were seven references. Of the seven references, one was to the *Encyclopedia of Bioethics*, one was to the *Principles of Biomedical Ethics* and one was to the *Bibliography of Bioethics*. Only one reference to another section of the book was found in the text.

Analysis of Chapter 1, “Medical Indications,” revealed 39 uses of terms such as ethics, ethical problems, ethical obligations, medical ethics, ethical discussions, and ethi-

cal responsibilities. The term bioethics was not found in Chapter One. In chapter one, there were thirty six notes. Of the thirty six citations, three were to the *Encyclopedia of Bioethics* and one was to the *Principles of Biomedical Ethics*. Thirty three references to other sections of the book were found in the text.

Analysis of Chapter 2, “Patient Preferences,” revealed thirty eight uses of terms such as ethical problems, ethical issues, ethics, ethically permissible, ethical point of view, ethicist, and ethical priority. The term bioethics was not found in the text. Forty seven notes were found in Chapter Two. Five of the citations were to the *Encyclopedia of Bioethics* and one was to the *Principles of Biomedical Ethics*. Twenty one references to other sections of the book were noted in the text.

Analysis of Chapter 3, “Quality of Life,” revealed 32 uses of terms such as ethically indefensible, ethical argument, ethical course of action, acting ethically, and ethical deliberations. The term bioethics was not mentioned in the chapter. Of the sixty six references found in the chapter, four were to the *Encyclopedia of Bioethics* and one was to the *Principles of Biomedical Ethics*. Forty two references to other sections of the book were noted in the text.

Analysis of Chapter 4, “Quality of Life,” revealed forty six uses of terms such as ethical problems, unethical, professional ethics ethical questions, clinical ethics, and medical ethics; the term bioethics was mentioned once in the chapter. Seventy five references were found in Chapter Four. Ten of the references were to the *Encyclopedia of Bioethics* and one was to the *Principles of Biomedical Ethics*. Ten references to other sections of the book were found in the text.

Analysis of Chapter 5, “Pediatrics and Obstetrics Ethics”, revealed fourteen uses of terms such as clinical ethical discussion, ethical literature, ethical considerations, ethical problems, and ethical decisions. The term bioethics was not mentioned in the chapter. In Chapter Five, fifty one notes were found. Nine references to the *Encyclopedia of Bioethics* were found and there were no references to the *Principles of Biomedical Ethics*. Twenty eight references to other sections of the book were noted in the text.

The General Reference section offered further resources for ethical and bioethical literature and consisted of the areas of Resources, Journals, Anthologies and Collected Essays, Textbooks, Books and Resources in the Roman Catholic Tradition, and Books and Resources in the Jewish Tradition. There were 71 entries in the General Reference Section. Of the 71 entries, only 9 entries included the word bioethics.

Clinical Ethics (1998)

Clinical Ethics (Jonsen, Seigler, & Winslade, 1998) was a required text over the academic years 1998-2001. The authors encouraged physicians to develop skills that would allow them to analyze ethical problems that occur in the clinical setting. The book offered a systematic approach to ethical decision-making for physicians faced with ethical dilemmas in the care of patients in a clinical setting. In addition, the authors addressed the limited references to bioethics in the text:

Competence in clinical ethics depends not only on being able to use a sound method for analysis but also on familiarity with the literature of medical ethics. Some readers will seek further elaboration of the issues dealt with so briefly in this introductory book. We direct these readers to a few sources where they will find not only that elaboration but references to the major literature. Thus, we place brackets after our discussion of an issue references to the *Encyclopedia of Bioethics*, *Principles of Biomedical Ethics*, and *Medical Ethics*... We rarely cite articles: the literature in medical ethics that appears in medical and bioethical journals is extensive and much of it becomes rapidly

outdated. We will cite those articles that we quote and also the occasional review article that can introduce readers to a broader discussion. (p. 10)

Clinical Ethics (1998) is consisted of an Introduction and four chapters titled Medical Indications, Patient Preferences, Quality of Life, and External Factors. Each chapter addressed a principal area of ethical consideration. The text included an Introduction, Table of Contents, and a Locator section. The Table of Contents provided information regarding the location of the Introduction and the various chapters of the text. Alphabetically organized topics in the Locator guide the reader to sections of the book related to topic areas. This book did not contain a General Reference section.

Text references for the *Encyclopedia of Bioethics* (Reich, 1995), *Principles of Biomedical Ethics* (Beauchamp & Childress, 1994), and *Medical Ethics* (Veatch, 1994) were noted as the abbreviations *EB*, *PBE*, and *ME* in brackets followed issues discussed in the text. Complete reference information for these citations was found in the Reference section at the end of the Introduction. Other chapter references were placed in their entirety in brackets following issues discussed in the text.

An analysis of the Introduction and each of the four chapters of *Clinical Ethics* (1998) was conducted to determine the occurrences of the term bioethics in the text, the number of references to the *Encyclopedia of Bioethics*, (Reich, 1978), the *Principles of Biomedical Ethics* (Beauchamp & Childress, 1989), and *Medical Ethics* (Veatch, 1994). The analysis also included the number of references to other sections of the book.

The analysis of the Introduction showed 41 uses of terms such as ethical issues, clinical ethics, ethical discussions, ethical encounters, ethics of preference, and clinical ethical preferences were found and bioethics was found two times in the text. In the In-

troducton, there were five citations. Of the five references, one was to the *Encyclopedia of Bioethics*, one was to the *Principles of Biomedical Ethics* and one was to *Medical Ethics*. Only one reference to another section of the book was found in the text.

Analysis of Chapter 1, “Medical Indications,” revealed 33 uses of terms such as ethical questions, ethically acceptable, ethical obligations, ethical justification, ethical discussions, and ethical responsibilities. The term bioethics was not mentioned in the chapter. Of the thirty six bracketed references, three were to the *Encyclopedia of Bioethics*, two were for *Medical Ethics*, and one was to the *Principles of Biomedical Ethics*. Forty three references to other sections of the book were found in the text.

Analysis of Chapter 2, “Patient Preferences,” found one hundred and three uses of terms such as ethical problems, ethical practice, unethically, ethically permissible, ethical point of view, ethicist, and ethical priority. The term bioethics was not mentioned in the chapter. Of the sixty one references, 12 were to the *Encyclopedia of Bioethics*, four were for *Medical Ethics*, nine were to the *Principles of Biomedical Ethics*, one was to the *Journal of Clinical Ethics*, one was to the *Journal of Pediatrics*, and one was to the *Journal of Medical Philosophy*. Thirty two references to other sections of the book were noted in the text.

The analysis of Chapter 3, “Quality of Life,” revealed fifty six uses of terms such as ethics, ethically indefensible, ethical argument, ethical course of action, acting ethically, and ethical deliberations; the term bioethics was not mentioned in the chapter. Of the fifty four bracketed references found in the chapter, seven were to the *Encyclopedia of Bioethics*, two were to *Medical Ethics*, six were to the *Principles of Biomedical Ethics*,

and two were to the Journal of Medical Philosophy. Forty two references to other sections of the book were noted in the text.

Analysis of Chapter 4, “Quality of Life,” revealed ninety seven uses of terms such as ethical relevance, ethical consultation, professional ethics, ethical options, clinical ethics, and ethical obligation. Bioethics was mentioned four times in the chapter. Of the forty nine references found in chapter four, thirteen were to the *Encyclopedia of Bioethics*, four were to *Medical Ethics*, five were to the *Principles of Biomedical Ethics*, and one to other printed material. Thirty two references to other sections of the book were noted in the text.

Clinical Ethics (2002)

Clinical Ethics (Jonsen, Seigler, & Winslade, 2002) was a required course text over the years 2002-2009. The book offered four principles (topics), also found in each of the previous editions that assist physicians in identifying and analyzing ethical issues in clinical settings. In addition, the authors proposed that the ability to identify, analyze, and apply ethical principles in the clinical setting requires a familiarity with the literature of medical ethics and bioethics. The authors provided recommendations for further reading not only in the area of ethics but in bioethics:

We rarely cite articles (except those that we quote), because the literature in bioethics is extensive and in constant evolution. Instead, we refer, when useful, to the most widely used general text in bioethics, Beauchamp and Childress, *Principles of Biomedical Ethics*. We also reference the Special Issues and Special Sections of three principal American journals in Bioethics, *Hastings Center Report*, *Journal of Clinical Ethics*, and *Cambridge Quarterly of Healthcare Ethics*. (p. 9)

Clinical Ethics (2002) included a Table of Contents, a Locator section, an Introduction, and a General Reference section at the end of the book. The book included four chapters titled Medical Indications, Patient Preferences, Quality of Life, and External Factors. The Table of Contents listed where the Introduction and chapter texts were found. The Locator contained alphabetically organized topics that guide the reader to sections of the book related to topic areas.

References for the text included *Principles of Biomedical Ethics* (Beauchamp & Childress, 1994), the *Hastings Center Report*, the *Journal of Clinical Ethics*, the *Cambridge Quarterly of Healthcare Ethics* as well as other chapter references were noted in their entirety following issues discussed in the text. The authors used an endnote referencing style for the Introduction. In addition, references for the Introduction were found at the conclusion of the section.

An analysis of the Introduction and each of the four chapters of *Clinical Ethics* (2002) was conducted in order to determine the narrative occurrences of bioethics in the text, the number of references to the *Principles of Biomedical Ethics* (Beauchamp & Childress, 1994), the *Hastings Center Report*, the *Journal of Clinical Ethics*, and the *Cambridge Quarterly of Healthcare Ethics*. The analysis also included the number of references to other sections in the book.

Analysis of the Introduction showed 31 instances where terms such as ethical issues, clinical ethics, ethical discussions, ethical encounters, medical ethics, and ethical preferences; the term bioethics was found two times in the text. In the Introduction, there were six references. Of the six references, one was to the *Principles of Biomedical*

Ethics and one was to the *Bibliography of Bioethics*. There were no citations to reference to other sections of the book.

Analysis of Chapter 1, “Medical Indications,” revealed 23 uses of terms such as ethical values, ethical reflection, ethical responsibility, ethicist, ethical discussions, and ethical duty. The term bioethics was not mentioned in the chapter. Of the twenty four chapter references, one was to the *Principles of Biomedical Ethics*, one was to *Pediatrics*, one was to the *Journal of Clinical Ethics*, and one was to the *Cambridge Quarterly of Healthcare Ethics*. Thirty references to other sections of the book were found in the text.

Analysis of Chapter 2, “Patient Preferences,” found thirty four uses of terms such as ethically permissible, ethical practice, ethical pitfall, ethical obligations, ethical basis, and ethical priority. The term bioethics was not mentioned in the chapter. Of the thirty chapter references, nine were to the *Principles of Biomedical Ethics*, four were to the *Hastings Center Report* and four were to the *Journal of Clinical Ethics*, and two were to the *Cambridge Quarterly of Healthcare Ethics*. Thirty three references to other sections of the book were noted in the text.

Analysis of Chapter 3, “Quality of Life,” revealed fifty six instances where terms such as ethics, ethically indefensible, ethical argument, ethical course of action, acting ethically, and ethical deliberations were found in the text. The term bioethics was not mentioned in the chapter. Of the twenty two chapter references, six were to the *Principles of Biomedical Ethics*, one was to the *Hastings Center Report*, two were to the *Jour-*

nal of Clinical Ethics, and one was to the *Cambridge Quarterly of Healthcare Ethics*.

Twenty two references to other sections of the book were noted in the text.

Analysis of Chapter 4, “Quality of Life,” revealed sixty two uses of terms such as ethical principle, ethical analysis, unethical, ethics of healthcare policy, ethical status, and ethically desirable. Bioethics was mentioned four times in the chapter. Of the twenty five chapter references, four were to the *Principles of Biomedical Ethics*. Seventeen references to other sections of the book were noted in the text.

Summary of Analysis of *Clinical Ethics*

Each of the four editions of *Clinical Ethics* (Jonsen, Seigler, & Winslade) focused on providing clinicians with a systematic approach to identifying and analyzing ethical aspects in the clinical setting in order to bring about a resolution to ethical problems. Each of the texts provided clinicians with four topics to consider in the assessment of ethical issues in clinical decision-making: Medical Indications; Patient Preferences; Quality of Life; and External Factors. The authors recommend that clinicians become acquainted with literature in the field of ethics and bioethics in order to broaden their foundation for thinking about and analyzing ethical issues that occur in clinical settings.

Although extensive references and cross-references to ethical citations are found in the texts, fewer references to bioethics were noted in the texts. Readers seeking a more in-depth examination of bioethics are referred to sources pointing outside of the books such as books and journals in bioethics. For example, a total of 806 occurrences of ethical terms were found while only 18 bioethical terms were noted in the four texts analyzed. Further, 538 references for ethics were found across all of the texts analyzed

texts while only 238 for bioethics were noted. The findings of the analysis of the four books agree with the authors' statement of limited information and references to bioethics in the texts.

Introduction to Clinical Ethics (1997)

Introduction to Clinical Ethics (Fletcher, Lombardo, Marshall, Miller, 1997) was a recommended text in 2002. The 1997 edition of *Introduction to Clinical Ethics* was used prior to the 1995 version in the course and, therefore, was placed first in the analysis of text section. *Introduction to Clinical Ethics* served as a guide to clinical ethics for clinicians, students, and members of ethics committees concerned with ethical issues in patient care. The authors' purpose for the book was to provide "...a textbook that can be used as a semester course for students or as an orientation and study guide for members of ethics committee" (p. x).

Introduction to Clinical Ethics (1997) focused on the ethics of clinical practice and with the ethical problems that arise in the care of patients. The authors viewed bioethics as a branch of ethics that, when present in a clinical setting, provided the theoretical segment of ethics in the clinical setting. Clinical ethics in this setting is seen as a branch of bioethics.

The authors understand clinical ethics as a 'bridge' between theoretical bioethics and the bedside. Ideas move back and forth on both ways on the bridge – not merely from theorist to practitioners, but also from practitioners to theorists. While making a contribution to bioethics in general, this volume is primarily intended to provide a thoughtful, imaginative, and helpful introduction to ethics at the bedside. (p. v)

We understand these terms [ethics and bioethics] to be interchangeable, but we understand bioethics to be a movement much broader than an academic discipline. (p. xi)

Other texts or anthologies will be more useful to readers who are broadly interested in bioethics and medical humanities. It [bioethics] involves a systematic reflection on ethical issues and problems in healthcare, biomedical research, public health, and environmental issues that affect health. Medical humanities involve interdisciplinary studies of medicine and the arts, literature, history, and law. Clinical ethics can be seen as a bridge between the world of bioethics and medical humanities and the world of clinicians and patients. (*Introduction to Clinical Ethics*, 1997, p. viii)

Introduction to Clinical Ethics was divided into 4 sections. Section I, Understanding the Field, offered a history of clinical ethics and a chapter devoted to moral problem solving through a case method planning for patient care. Section II, Ethical Obligations and Problems in Clinical Care, looked at the ethical responsibilities of the physician in the care of patients. Section III, Resources for Ethics Committees, reviewed the role of ethics services in healthcare organizations and information regarding professional ethics for physicians and nurses in patient care.

Section IV of the book contained the Appendices. Appendix 1, “Joint Commission Requirements,” looked at the areas of responsibility of health care organizations in addressing ethical issues in the practice of institutional medicine. Appendix 2, “Recommendations for Guidelines on Procedures and Process and Education and Training to Strengthen Bioethics Services in Virginia,” offered information on the Virginia Bioethics Network. The purpose of this organization was to encourage education in bioethics and increase bioethics services in healthcare organizations. The guidelines offered general recommendations regarding procedures that could be applied to healthcare institutions for the establishment of ethics committees and the education and training for members of ethics committees.

Appendix 3, “Two Course Outlines and Additional Readings,” offered two outlines for the use of the book. The first outline was designed for medical and nursing students and the second outline was directed toward ethics committee members. Appendix 4, “Resources in Clinical and Biomedical Ethics,” provided readers with references for additional literary resources in clinical and biomedical ethics. Some of the topics in Appendix 4 included resources in Clinical Ethics, Anthologies of Cases and Casebooks, Theological Perspectives, Feminist Perspectives, Casuistry, and Perspectives in Bioethics.

Introduction to Clinical Ethics (1997) included a Table of Contents, Preface, 15 chapters, four Appendices, and an Index located at the conclusion of the book. Of the 15 chapters in the book, 11 of the chapters include a section devoted to Study Questions. A Notes section was found at the conclusion of each chapter. The authors used an endnote referencing style and references were noted in their entirety following issues discussed in the text. The references were listed by numbers in the text and readers are directed to one or more published works in the reference sections.

An analysis of *Introduction to Clinical Ethics* was conducted in order to determine the occurrence of the term bioethics in the text, and the number of references to the literature of bioethics. The Preface consisted of text and a Notes section. Analysis of the Preface text found 90 uses of the term ethics and 8 terms for bioethics. Twenty five references to other sections of the book were found in the text. Analysis of the Notes Section revealed 15 notes. Analysis of the chapter Notes section found 32 references to

ethics and 13 references to bioethics. Six uses of the term ethics were references to printed material. The term bioethics was not used as a reference to printed material.

Chapter 1, “Clinical Ethics: History, Content, and Resources,” consisted of the text and a Notes section. Analysis of the chapter text found 189 uses of the term ethics and 17 terms for bioethics. Twenty references to other sections of the book were found in the text. Analysis of the Notes section showed 60 notes. Forty one uses of the term ethics and 13 uses of the term bioethics were found. Nineteen uses of the term ethics were references to printed material. Four uses of the term bioethics were references to printed material.

Chapter 2, “Clinical Pragmatism: A Case Method of Moral Problem Solving,” was composed of the text and a Notes section. Analysis of the chapter text found 56 uses of the term ethics and 3 terms for bioethics. Eight references to other sections of the book were found in the text. Analysis of the Notes section revealed 23 notes. Examination of the Notes section showed 15 uses of the term ethics and eight uses of the term bioethics. One use of the term ethics was a reference to printed material. Four uses of the term bioethics were references to printed material.

Chapter 3, “Respecting Privacy and Confidentiality,” consisted of text, 4 Case Studies, 8 chapter Study Questions, and a Notes section. Analysis of the chapter text showed three uses of the term ethics and one use of the term bioethics. There were no references in the text to other sections in the book was found. Analysis of the Case Studies revealed an absence of the terms ethics or bioethics. The terms ethics and bioethics were not identified in the analysis of the Study Questions. Analysis of the Notes

section was made up of 34 notes. Examination of the Notes section showed one uses of the term ethics and one use of the term bioethics. One use of the term ethics was a reference to printed material. One use of the term bioethics was a reference to printed material.

Chapter 4, “Communication, Truth-telling, and Disclosure,” consisted of text, three Case Studies, four chapter Study Questions, and a Reference section. Chapter analysis of the text revealed 13 uses of the term ethics and one use of the term bioethics. One reference to other sections in the book was identified. Analysis of Case Study I revealed an absence of the term ethics or bioethics. Case History II analysis found two uses of the term ethics and the term bioethics was not identified. Case History III analysis showed three uses of the term ethics and the term bioethics was not found. The terms ethics or bioethics were not found in an analysis of the study questions. Analysis of the Notes section was made up of 58 notes. Examination of the Notes section showed 15 uses of the term ethics and 3 uses of the term bioethics. Nine uses of the term ethics were references to printed material. One use of the term bioethics was a reference to printed material.

Chapter 5, “Determining Patient’s Capacity To Share In Decision Making,” included text, 3 Case Studies, 5 chapter Study Questions, and a Notes section. Chapter analysis of the text revealed three uses of the term ethics. The term bioethics was not found in the chapter analysis. The text did not contain any references to other sections of the book. Analysis of the Case Studies revealed an absence of the terms ethics and bioethics in Case Study I. The term ethics was identified twice in Case Study II while

the term bioethics was not found. The term ethics was used three times and the term bioethics was not found in Case Study III. The terms ethics and bioethics were not found in the Study Questions. Analysis of the Notes section revealed 65 references. Ten uses of the term ethics were found and one reference to bioethics was identified. Six uses of the term ethics were references to printed material. Two uses of the terms bioethics were references to printed material.

Chapter 6, “The Process of Informed Consent,” was comprised of text, three Case Histories, three Study Questions, and a Notes section. Analysis of the chapter text found eight uses of the term ethics. The term bioethics was not found in the text. The text contained five references to other sections of the book. In the analysis of the Case Studies, eleven uses of the term ethics and one use of the term bioethics were found in the Case Study I. The terms ethics or bioethics were not found in the analysis of Case Study II. Analysis of Case Study III revealed one use of the term ethics and the term bioethics was not found. The terms ethics or bioethics were not found in the Study Questions. Analysis of the Notes section revealed 49 notes. Eleven uses of the term ethics were found and nine references to bioethics were identified. Four uses of the term ethics were references to printed material. Three uses of the term bioethics were references to printed material.

Chapter 7, “Treatment Refusals By Patients and Clinicians,” included text, a Table, three Case Studies, six Study Questions, and a Notes section. Analysis of the chapter text found 10 uses of the term ethics and one use of the term bioethics. The text contained four references to other sections of the book. Analysis of the Table revealed two

uses of the term ethics and no uses of the term bioethics were found. Analysis of the Case Studies revealed two uses of the term ethics and an absence of the term bioethics in Case Study I. The terms ethics and bioethics were not found in Case Studies II and III. The terms ethics and bioethics were not found in the Study Questions. Analysis of the Notes section revealed 30 Notes. Of the 30 Notes, four uses of the term ethics and one use of the term bioethics were found. Four uses of the term ethics were references to printed material. One use of the term bioethics was a reference to printed material.

Chapter 8, “Death and Dying,” included text, three Case Studies, seven Study Questions, and a Notes section. Chapter analysis of the text revealed eight uses of the term ethics. The term bioethics was found once in the text. The text did not contain any references to other sections of the book. Analysis of the three Case Studies revealed a total of nine uses of the term ethics. The term bioethics was not found any of the Case Studies. The terms ethics and bioethics were not found in the Study Questions. Analysis of the Notes section revealed 106 notes. Thirteen uses of the term ethics and three uses of the term bioethics were found in the Notes section. Four uses of the term ethics were references to printed material. Four uses of the term bioethics were references to printed material.

Chapter 9, “The Decision to Forgo Life-Sustaining Treatment When The Patient Is Incapacitated,” consisted of text, one Table, two Case Studies, seven Study Questions, and a Notes Section. Analysis of the chapter text showed 32 uses of the term ethics and two uses of the term bioethics. Six references in the text to other sections in the book were found. Analysis of the Table revealed that the term bioethics was used once and

the term ethics was not found. Three uses of the term ethics were found both in Case Study I and in Case Study II. The term bioethics was not found in either Case Study I or Case Study II. The term ethics was used twice in the Study Questions. The term bioethics was not found in the Study Questions. Analysis of the Notes section revealed 106 notes. Analysis of the reference section showed 21 uses of the term ethics and one use of the term bioethics. Four uses of the term ethics were references to printed material. The term bioethics was not used as a reference to printed material.

Chapter 10, “Decisions About Treatment For Newborns,” consisted of text, three Case Histories, three Study Questions, and a Notes section. Analysis of the chapter text showed seven uses of the term ethics while the term bioethics was not found. There were no references in the text to other sections in the book. The term ethics was used twice in Case Study I and the term bioethics was not found. The terms ethics and bioethics were not found in Case Study II or III. The terms ethics and bioethics were not found in the Study Questions. Analysis of the Notes section revealed 77 notes. Analysis of the Note section revealed 19 uses of the term ethics and nine uses of the term bioethics. Four uses of the term ethics was a reference to printed material. Fourteen uses of the term bioethics were references to printed material.

Chapter 11, “Reproductive Issues,” was composed of text, three Case Studies, six Study Questions, and a Notes section. Chapter analysis of the text revealed 20 uses of the term ethics. The term bioethics was not found in the text. There were no references in the text to other sections in the book. The terms ethics and bioethics were not found in the Case Studies. Analysis of the Study Questions revealed two uses of the term eth-

ics while no references to bioethics were found. Analysis of the Note section revealed 116 notes. Analysis of the reference section showed 24 uses of the term ethics and eight uses of the term bioethics. Twelve uses of the term ethics were references to printed material. Four uses of the term bioethics were references to printed material.

Chapter 12, “Patient Selection: Tragic Choices,” was composed of text, a table, two Case Histories, four Study Questions, and a Notes section. Analysis of the chapter text found eight uses of the term ethics and while the term bioethics was not found. There were no references to other sections of the book. One use of the term ethics was found in the Table while there were no uses of the term bioethics. The terms ethics and bioethics were not found in the Case Studies. The terms ethics and bioethics were not identified in the Study Questions. The Notes Section contained 32 notes. Analysis of the Note section revealed one use of the term ethics and 5 uses of the term bioethics. Six uses of the term ethics were references to printed material. The term bioethics was not used as a reference to printed material.

Chapter 13, “Economics, Managed Care, And Patient Advocacy,” included text, Study Questions, a Notes section, and a Reference section. Analysis of the chapter text found 22 uses of the term ethics and the term bioethics was not found. There were no references to other sections of the book. The Notes Section contained 19 notes. Analysis of the Note section revealed four uses of the term ethics and the term bioethics was not found. Two uses of the term ethics were to printed material. The Reference Section contained five references. Analysis of the reference section showed two uses of the term ethics and the term bioethics was not found. The three uses of the term ethics were ref-

erences to printed material. The term bioethics was not used as a reference to printed material.

Chapter 14, “Ethics In Healthcare Organizations,” consisted of text, three Tables, and a Notes section. Analysis of the chapter text found 202 uses of the term ethics and 8 uses of the term bioethics. The text contained 21 references to other sections of the book. Analysis of Table I revealed that the term ethics was used six times and the term bioethics was not found. Analysis of Table II showed the use of the term ethics once and the term bioethics was not found. Analysis of Table III found the term ethics used once and the term bioethics was not found. The Notes section contained 92 notes. Analysis of the Notes section showed 73 uses of the term ethics and 18 uses of the term bioethics. Six uses of the term ethics were references to printed material. Three uses of the term bioethics were used as a reference to printed material.

Chapter 15 consisted of text and a Notes section. Analysis of the chapter text found 91 uses of the term ethics and 29 uses of the term bioethics. There were no references to other sections of the book. The Notes section contained 39 notes. Analysis of the Notes section showed 18 uses of the term ethics and the term bioethics was not found. Six uses of the term ethics were references to printed material. The term bioethics was not used as a reference to printed material.

Appendix I consisted of text and a Notes section. Analysis of the text revealed 45 uses of the term ethics and two uses of the term bioethics. The text did not contain references to other sections of the book. The Notes section contained seven notes. Analysis of the Notes section showed two uses of the term ethics and the term bioethics

was not found. Neither the term ethics nor the term bioethics was used as references to printed material.

Appendix 2 consisted of text and a Notes section. Analysis of the text found 88 uses of the term ethics and 22 uses of the term bioethics. The text did not contain references to other sections of the book. The Notes section contained two notes. Analysis of the Notes section showed two uses of the term ethics and one use of the term bioethics. Neither the term ethics nor the term bioethics was used as references to printed material.

Appendix 3 consisted of text and a Notes section. Analysis of Appendix 3 revealed 78 uses of the term ethics and 19 uses of the term bioethics. The text contained 42 references to other sections of the book. The Notes section contained 13 notes. Analysis of the Notes section showed five uses of the term ethics and two use of the term bioethics. Four uses of the term ethics were references to printed material. Four uses of the term bioethics were to printed material.

Appendix 4 consisted of printed resources in clinical and biomedical ethics not found in the book. Analysis of Appendix 4 revealed 79 entries. Ninety four uses of the term ethics and 29 uses of the term bioethics were found. Forty uses of the term ethics were references to printed material. Thirteen uses of the term bioethics were references to printed material.

Examination of the Index of the *Introduction to Clinical Ethics* (1997) revealed 12 entries under the heading Bioethics and Bioethics education. The 12 bioethics entries guided readers to information about bioethics in the text.

Analysis of the *Introduction to Clinical Ethics* (1997) revealed a total of 926 ethical terms and 116 bioethical terms in the text. The analysis of the chapter note sections showed 390 uses of the term ethics and 125 uses of the term bioethics. Further analysis of the note section found a total of 138 uses of ethical terms and 61 uses of bioethical terms were references to printed material.

Introduction to Clinical Ethics (1995)

Introduction to Clinical Ethics (Fletcher, Hite, Lombardo, Marshall, 1995) was a required text in 2003 and a recommended text in 2004 and 2005. As in the 1997 edition of, the book served as an introduction to clinical ethics for clinicians and members of healthcare professions concerned with ethical issues in patient care. The authors view clinical ethics as a branch of bioethics and supported the creation of bioethical services programs in the clinical setting to be used as "...[a] resource for clinicians, patients, and families... for assistance in resolving ethical problems in clinical care" (p. 229).

Clinical ethics is a 'bridge'... between theoretical bioethics and the bedside. Ideas move both ways on this bridge – not merely from theorist to practitioners but also from practitioners to theorists... While making a contribution to bioethics in general, this volume is primarily intended to provide a thoughtful, imaginative, and helpful introduction to ethics at the bedside... In short, this book reflects an ideal approach to both teaching and scholarship in bioethics. (1995, p. 3)

From its origins to the present, the bioethics movement had two arms. One was an interdisciplinary dialogue and literature, known interchangeably as bioethics or biomedical ethics. Bioethics became a new academic subdiscipline in the larger field of ethics. The second arm was an agenda for social and institutional change to prevent abuses and enhance the values that are supposed to guide decision making with human subjects of research and patients. (1995, p. 4)

Introduction to Clinical Ethics (1995) contains a Preface, Table of Contents, 16 Chapters, and 4 Appendices. The text is divided into four sections. Section I (Chapters

1 and 2), “Understanding the Field,” offered a brief history of clinical ethics and a chapter dedicated to a case method planning for patient care. Section II (Chapters 3-6), “Ethical Problems in Particular Cases,” looked at how educational programs provided information concerning the ethical responsibilities of the clinician to the patient and a review of ethical problems encountered in clinical practice.

Section III of *Introduction to Clinical Ethics* (1995), “Resources for Ethics Committees”, contains chapters 14-16. Chapter 14, “Bioethics Services in Health Care Organization,” supplied the reader with a brief history of ethics committees, problems that hinder the effectiveness of ethical committees, and suggestions to resolve the problems encountered in an ethics program to provide bioethics services. Other information in the chapter lists proposed guidelines for the orientation, education and training of members of an ethics committee. Chapter 15, Surveys of Ethical Orientations and Theories, looked at various ethical perspectives and theories in ethics and bioethics. These principles and theories include virtue ethics in biomedical ethics, principlism, theologians and biomedical ethics, and feminist and biomedical ethics. Readers were directed to texts such as *Principles of Biomedical Ethics* (Beauchamp & Childress, 1989), and the *Foundations of Bioethics* (Engelhardt, 1986) for a more in-depth examination of bioethical principles and theories.

The final section of the book is composed of four Appendices. Appendix 1, “Joint Commission Requirements,” looked at the areas of responsibility of health care organizations in addressing ethical issues in the practice of institutional medicine. Appendix 2, “Two Course Outlines and Additional Readings,” offered references in the area of

institutional ethics programs and networks such as the Virginia Bioethics Network, Richmond Consortium for Biomedical: Ethics, Bioethics Resource Group of Charlotte, N.C., and Washington Metropolitan Bioethics Network. These network references provided information to clinical and ethics committees regarding public education on bioethical issues, services to health care institutions and programs, and support and continuing education for persons interested in bioethics.

Appendix 3, “Resources in Clinical and Biomedical Ethics,” directed readers to additional resources in clinical and biomedical ethics. Appendix 3 consisted of an annotated bibliography that contained references such as journals, books, and encyclopedias for resources in both clinical and biomedical ethics. Appendix 4, “Ethical Consultation Policy University of Virginia Health Sciences Center,” provided an outline of the responsibilities involved in ethics consultations in health care institutions in the process of decision making and resolving ethical issues in the clinical setting.

The authors used an endnote referencing style and references are noted in their entirety following issues discussed in the text. The references were listed by numbers in the text and readers were directed to one or more published works in the reference sections. Ten of the chapters also included a section devoted to chapter Study Questions. Chapters 10 and 13 also provide a bibliography section.

An analysis of the Preface, 16 chapters, and 4 Appendices was conducted in order to determine the occurrences of the term bioethics in the text, and the number of references to the literature of bioethics. The Preface consisted of textual content and a reference section. Analysis of the Preface found 63 uses of the term ethics and 14 terms for

bioethics. Nineteen references to other sections of the book were found in the text. Of the 15 chapter references, 11 notes were found. Analysis of the chapter reference section showed 37 references to ethics and 12 references to bioethics. The terms ethics and bioethics were not found as a references to printed material.

Chapter 1 consisted of the text and a reference section. Analysis of the chapter found 134 uses of the term ethics and 18 terms for bioethics. Twenty one references to other sections of the book were found in the text. Analysis of the Notes section revealed 41 chapter references, eight notes were identified. Analysis of the reference section showed 27 references to ethics and three references to bioethics. Twelve uses of the term ethics and seven uses of the term bioethics were identified as references to printed material.

Chapter 2 was made up of text, two tables that consisted of case study methods for planning patient care, and a reference section. Chapter analysis of the text revealed 120 uses of the term ethics and 1 use of the term bioethics. Six references to other sections of the book were found in the text. Analysis of table one found 4 uses of the term ethics while no references to the term bioethics were found. Analysis of table two found 15 references to the term ethics and no references to the term bioethics were identified. Of the 20 chapter references, nine notes were found. Analysis of the reference section showed 13 uses of the term ethics and 6 uses of the term bioethics. Only one use of the term ethics was a reference to printed material. Three uses of the term ethics were references to printed material.

Chapter 3 consisted of text, four case studies, eight chapter Study Questions pertaining to the case study, and a Reference section. Analysis of the chapter text showed seven uses of the term ethics and one use of the term bioethics. One reference in the text to other sections in the book was found. Analysis of the study questions revealed an absence of references to the terms ethics and bioethics. The reference section of the chapter was made up of 14 references that included two notes. Analysis of the reference section showed one use of the term ethics and two uses of the term bioethics. The term ethics was not found as a reference to printed material. Only one use of the term bioethics was a reference to printed material.

Chapter 4 consisted of text, three Case Histories, four chapter Study Questions, and a Reference section. Chapter analysis of the text revealed 12 uses of the term ethics. The term bioethics was not found in the text. One reference to other sections in the book was identified. Analysis for the Case History I revealed an absence of the term ethics or bioethics. Case History II analysis found one use of the term ethics. Case History III analysis showed one use of the term bioethics and the term ethics was not found. The terms ethics or bioethics were not found in an analysis of the study questions. Analysis of the 42 chapter references showed 11 uses of the term ethics and two uses of the term bioethics. Eleven uses of the term ethics were references to printed material. Three uses of the term bioethics was a reference to printed material.

Chapter 5 included text, three Case Histories, five Study Questions, and a Reference section. Chapter analysis of the text revealed four uses of the term ethics and one use of the term bioethical. The text did not contain any references to other sections of

the book. Analysis of the Case Histories found the term ethics used once in the first case, the term ethics was identified twice in the second case and the term ethics was used five times in the third case. The term bioethics was not found in the Case Histories. Analysis of the reference section revealed 42 references. Twelve uses of the term ethics were found and one reference to bioethics was noted one use of the term bioethics was a reference to printed material.

Chapter 6 was comprised of text, three Case Histories, three Study Questions, and a Reference section. Analysis of the chapter text found three uses of the term ethics and one use of the term bioethics. The text contained five references to other sections of the book. In the analysis of the Case Histories, two uses of the term ethics and one use of the term bioethics was found in the first case. The terms ethics or bioethics were not found in the second case while only one use of the term ethics was noted in the third case. The terms ethics or bioethics were not found in the Study Questions. Analysis of the reference section revealed 31 references. Four uses of the term ethics were found and four references to bioethics were noted. Four uses of the term ethics and two uses of the term bioethics were references to printed material.

Chapter 7 included text, one Appendix, three Case Histories, six Study Questions, and a Reference section. Analysis of the chapter text found 17 uses of the term ethics and no use of the term bioethics was noted. The text contained four references to other sections of the book. Analysis of the Appendix showed one use of the term ethics while no use of the term bioethics was found. Analysis of the case histories revealed two uses of the term ethics in case one, one use of the term ethics in the second case and

the use of the term ethics was not found in the third case. The term bioethics was not identified in the case studies. The term ethics was used once in the Study Questions. The term bioethics was not found in the Study Questions. Analysis of the reference section revealed 24 references. Four uses of the term ethics and four references to bioethics were found. Nine uses of the term ethics were references to printed material. Two uses of the term bioethics were references to printed material.

Chapter 8 included text, 3 Case Histories, seven Study Questions, and a Reference section. Chapter analysis of the text revealed seven uses of the term ethics. The term bioethics was not found in the text. The text did not contain any references to other sections of the book. Analysis of the Case Histories revealed two uses of the term ethics in case one, one use of the term ethics in the second case and one use of the term ethics in the third case. The term bioethics was not identified in the Case Studies. The term bioethics was not found in the Study Questions. Analysis of the reference section revealed 73 references. Sixteen uses of the term ethics were found and two references to bioethics were noted. Eighteen uses of the term ethics and three uses of the term bioethics were references to printed material.

Chapter 9 consisted of text, one Table, two Case Studies, seven Study Questions pertaining to the Case Study, and a Reference Section. Analysis of the chapter text showed 25 uses of the term ethics and one use of the term bioethics. Two references in the text to other sections in the book were found. Analysis revealed that the terms ethics and bioethics were not found in the text of the Table. The terms ethics and bioethics were not identified in the first Case Study. The term ethics was found once and the term

bioethics was not identified in the second Case Study. The terms ethics and bioethics were not found in the Study Questions. Analysis of the Reference Section revealed 66 references. Of the 66 chapter references, seven notes were found. Analysis of the reference section showed 22 uses of the term ethics and three uses of the term bioethics were identified. Eleven uses of the term ethics were references to printed material. Three uses of the term bioethics were references to printed material.

Chapter 10 consisted of text, three Case Histories, three Study Questions, a Bibliography, and a Reference Section. Analysis of the chapter text showed nine uses of the term ethics and two uses of the term bioethics. There were no references in the text to other sections in the book. The term ethics was found once in Case History I and once in the Case History II. The term bioethics was not found in any of the three Case Histories. The terms ethics and bioethics were not found in the Study Questions. The terms ethics and bioethics were not found in the 14 entries of the Bibliography. Analysis of the Reference Section revealed 29 references. Analysis of the reference section revealed four uses of the term ethics and four uses of the term bioethics. Nine uses of the term ethics were references to printed material. Four uses of the term bioethics were references to printed material.

Chapter 11 included text, three Case Histories, five Study Questions, and a Reference section. Chapter analysis of the text revealed 25 uses of the term ethics. The term bioethics was not found in the text. The text contained one reference to other sections of the book. The terms ethics and bioethics were not found in the Case Histories. Analysis of the Study Questions revealed one use of the term ethics while no references

to bioethics were found. Analysis of the Reference Section revealed 81 references. Of the 81 chapter references, two notes were found. Analysis of the reference section showed 25 uses of the term ethics and one use of the term bioethics. Nine uses of the term ethics were references to printed material. Two uses of the term bioethics were references to printed material.

Chapter 12 was composed of text, one Appendix, three Case Histories, four Study Questions, and a Reference section. Analysis of the chapter text found 6 uses of the term ethics and while the term bioethics was not found. The text contained one reference to other sections of the book. The terms ethics and bioethics were not found in the analysis of the Appendix. The terms ethics and bioethics were not found in the Case Histories. Analysis of the Study Questions revealed one use of the term ethics while no references to bioethics were found. The Reference Section contained 28 references. Analysis of the reference section showed four uses of the term ethics and four uses of the term bioethics. Five uses of the term ethics were references to printed material. Five uses of the term bioethics were references to printed material.

Chapter 13 included text, a Case History, a Bibliography, and a Reference section. Analysis of the chapter text found 20 uses of the term ethics and while the term bioethics was not found. The text contained one reference to other sections of the book. The terms ethics and bioethics were not found in the Case History. Analysis of the four entries in the Bibliography showed the term ethics used once while the term bioethics was not found. The Reference Section contained 15 references. Analysis of the reference section showed four uses of the term ethics. The term bioethics was not found in

the reference section. Four uses of the term ethics were references to printed material. The term bioethics was not found as a reference to printed material.

Chapter 14 consisted of text and a Reference Section. Analysis of the chapter text found 130 uses of the term ethics and 13 uses of the term bioethics. The text contained one reference to other sections of the book. The Reference Section contained 53 references. Of the 53 references, 15 notes were found. Analysis of the reference section showed 64 uses of the term ethics and 13 uses of the term bioethics. Twenty five uses of the term ethics were references to printed material. Three uses of the term bioethics were references to printed material.

Chapter 15 consisted of text and a Reference Section. Analysis of the chapter text found 64 uses of the term ethics and 4 uses of the term bioethics. The text contained four references to other sections of the book. The Reference Section contained 26 references. Of the 26 references, 4 notes were found. Analysis of the reference section showed ten uses of the term ethics and one use of the term bioethics. Eight uses of the term ethics were references to printed material. Three uses of the term bioethics were references to printed material.

Chapter 16 consisted of text and a Reference Section. Analysis of the chapter text found 69 uses of the term ethics and one use of the term bioethics. The text did not contain references to other sections of the book. The Reference Section contained 24 references. Analysis of the reference section revealed 10 uses of the term ethics while the term bioethics was not found. Nine uses of the term ethics were references to printed material. The term bioethics was not found as a reference to printed material.

Appendix I was composed of text. Analysis of Appendix 1 text revealed 17 uses of the term ethics. The term bioethics was not found in the text. The text did not contain references to other sections of the book. There was no Reference section in Appendix I.

Appendix 2 consisted of text and a Reference Section. Analysis of the text found 16 uses of the term ethics and eight uses of the term bioethics. The text contained 20 references to other sections of the book. The Reference Section contained 10 references. Of the 10 references, three notes were found. Analysis of the reference section showed three uses of the term ethics and three use of the term bioethics. Three uses of the term ethics and one use of the term bioethics were references to printed material.

Analysis of Appendix 3 revealed 75 uses of the term ethics and 17 uses of the term bioethics. Thirty seven uses of the term ethics were references to printed material. Twelve uses of the term bioethics were references to printed material.

Analysis of Appendix 4 showed 53 uses of the term ethics. The term bioethics was not found in the text. The text did not contain references to other sections of the book. The terms ethics and bioethics were not found as a reference to printed material.

Analysis of the *Introduction to Clinical Ethics* (1995) text revealed a total of 757 ethical terms found in the text, while only 74 bioethical terms were located. In addition, 300 uses of the term ethics were found in the chapter references while only 68 uses of the term bioethics were identified. Further analysis of the note section found a total of 174 uses of ethical terms and 51 uses of bioethical terms were references to printed material.

Summary of *Clinical Ethics*

Both editions of *Introduction to Clinical Ethics* (Fletcher, Hite, Lombardo, Marshall, 1995) and *Introduction to Clinical Ethics* (Fletcher, Lombardo, Marshall, Miller, 1997) provided information about clinical ethics for clinicians and healthcare professionals concerned with ethical issues in patient care. The authors of both editions viewed bioethics as the theoretical segment of ethics in the clinical setting. The latter text contained an updated as well as an expanded review of clinical and bioethical literature. In addition, the 1997 text offered more in-depth discussions than the previous edition on ethical dilemmas facing healthcare providers brought about by issues such as managed care and allocation of scarce resources.

Although bioethics was addressed in both editions of the book and viewed as the theoretical segment of ethics in the clinical setting, the number of ethical terms in the text, note sections, and the reference sections was found to be greater than the number of bioethical terms identified in the same areas. The findings of this analysis agreed with the authors' view that the books are primarily concerned about offering information regarding clinical ethics while referring readers seeking further information on bioethics to other texts, printed materials, and resources not found in the texts.

Medicine as a Human Experience

Medicine as a Human Experience (Reiser & Rosen, 1985) was a required text over the years 1995, 1996, and 1997 and it was listed as Other Reading in 1998 and 2000. The text was again categorized as required reading in 2003 and as a recommended text in 2004, 2008, and 2009. The text, according to the authors, provided infor-

mation that assists the student bridge the gap from the basic science years to working with patients in the clinical setting. The book looked at the role of students-physicians in caring for the individual patient and centered on areas such as the psychological, social, and biological aspects of the student-physician and patient relationship.

Many physicians have expressed increasing concern over the trend toward fragmented and dehumanized medical care. Throughout, we attempt to convey the message that being knowledgeable about, and sensitive to, the human being we care for is an essential feature of effective, successful medicine...The book concerns itself with caring for the whole patient and outlines basic precepts involved in an empathic, biopsychosocial approach to medical practice...We intend this book of precepts and general principles to be a guide, a comfort, and an inspiration to young doctors as they pursue their own healing and the healing of their patients. (xviii-xix)

Medicine as a Human Experience (1984) consisted of a preface, prologue, acknowledgements, seven chapters, an epilogue, and an index. A suggested reading list was located at the end of each chapter.

Summary of *Medicine as a Human Experience*

Analysis of the book revealed that ethics and bioethics were not addressed. The terms ethics and bioethics were not found in the chapters, suggested readings, or in the index of the book.

***Principles of Biomedical Ethics* (1983)**

Principles of Biomedical Ethics (Beauchamp & Childress, 1983) was a required text over the years of 1986-87, 1987-1988. *Principles of Biomedical Ethics* (2001) was a required text in 2003 and served as a recommended reference in 2004, 2005, 2008, and 2009.

Principles of Biomedical Ethics (Beauchamp & Childress, 1983) presented a systematic analysis and discussion of moral principles in biomedicine (p. x). The authors proposed 4 principles of biomedical ethics that included autonomy, nonmaleficence, beneficence, and justice to serve as tools for the examination and analysis of moral problems. This book served as a guide for the examination of moral principles for physicians, students, and health care professionals faced with ethical dilemmas in various fields of medical practice and research.

We [the authors] understand ‘biomedical ethics’ as one type of applied ethics-the application of general ethical theories, principles, and rules to problems of therapeutic practice, health care delivery, and medical and biological research. (pp. xi-x)

Many books in the...field of biomedical ethics focus on a series of problems such as abortion, euthanasia, behavior control, research involving human subjects, and the distribution of health care. Rarely do these books concentrate on the principles that should apply to a wide range of biomedical problems...As a result, the moral judgments involved in one dilemma may appear to be unconnected to the moral judgments in others. Such a disjointed approach often relies on the discussion of cases, with little attention to the principles that both create and illuminate the dilemmas...Only by examining moral principles and determining how they apply to cases and how they conflict can we bring some order and coherence to the discussion of these problems. (p. x)

Principles of Biomedical Ethics (1983) consisted of a Preface, Table of Contents, eight chapters, two Appendices, a Bibliography of Suggested Readings, and an Index. Chapters 1-2 examined the aspects of moral deliberation and justification as well as the ways in which deontological and utilitarian theories interpret principles, rules, and judgments (p. x). Chapters 3-6 provided an introduction and analysis of four fundamental moral principles that include autonomy, beneficence, nonmaleficence, and justice.

Chapter 7 offered a discussion of the principles of confidentiality and truthfulness while Chapter 8 looked at the areas of virtues, integrity, and ideals.

Appendix I consisted of 35 case studies regarding issues encountered by physicians and health care providers related to moral principles that are referenced throughout the chapters of the book. Appendix II contained professional codes, a statement of a patient's bill of rights, and a policy of protection for human research subjects. The Bibliography offers suggested readings of printed materials not found in the text. The Index contained alphabetically organized topics that guided the reader to sections of the book related to topic areas.

The Preface consisted of text. Analysis of the Preface found five uses of the term ethics and six uses of the term bioethics. Three references to other sections of the book were located. The Preface did not contain a Notes section.

Chapter 1, "Morality and Ethical Theory," was composed of text and a Notes section. Analysis of the chapter found 36 uses of the term ethics and 10 uses of the term bioethics. Eight references to other sections in the book were located. The Notes section contains 13 entries. Analysis of the Notes section showed 16 uses of the term ethics and three uses of the term bioethics. Eight uses of the term ethics were references to printed material. Three uses of the term bioethics were references to printed material.

Chapter 2, "Utilitarian and Deontological Theories," was made up of text and a Notes Section. Analysis of the chapter text showed nine uses of the term ethics and only one use of the term bioethics. There were 15 references to other sections in the book. The Notes section contained ten entries. Analysis of the Notes section found nine uses

of the term ethics and one use of the term bioethics. Eight of the ethics terms were references to printed material. Only one use of the term bioethics was a reference to printed material was found.

Chapter 3, “The Principle of Autonomy,” was composed of text and a Notes section. Analysis of the chapter text showed three uses of the term ethics and three uses of the term bioethics. The text contained 34 references to other sections of the book. The Notes section contained 91 notes. Analysis of the Note section revealed eight uses of the term ethics and one use of the term bioethics. Eight uses of the term ethics were references to printed material. Only one use of the term bioethics was a reference to printed material.

Chapter 4, “The Principle of Nonmaleficence,” consisted of text and a Notes section. Analysis of the chapter text showed two uses of the term ethics while the term bioethics was not found. Nineteen references to other sections of the book were identified. The Notes section contained 65 notes. Analysis of the Notes section showed twenty one uses of the term ethics and three uses of the term bioethics. Twenty one uses of the term ethics were references to printed material. Three uses of the term bioethics were references to printed material.

Chapter 5, “The Principle of Beneficence,” was made up of text and a Notes section. Analysis of the chapter text revealed four uses of the term ethics and the term bioethics was not found. Thirty six references to other sections of the book were identified. The Notes section contained 39 notes. Analysis of the Note section revealed twelve uses of the term ethics and one use of the term bioethics. Eleven uses of the term ethics were

references to printed material. One use of the term bioethics was a reference to printed material.

Chapter 6, “The Principle of Justice,” consisted of text and a Notes section. Analysis of the chapter text showed only three uses of the term ethics and one use of the term bioethics. Seventeen references to other sections of the book were identified. The Notes section contained 46 notes. Analysis of the Note section showed nine uses of the term ethics and five uses of the term bioethics. Nine ethical terms were references to printed material. Five bioethical terms were references to printed materials.

Chapter 7, “Professional/Patient Relationships,” was composed of the text and a Notes section. Analysis of the chapter text found 14 uses of the term ethics and one use of the term bioethics. Fifty six references to other sections of the book were identified. The Notes section contained 52 notes. Analysis of the Note section found 16 uses of the term ethics were and four uses of the term bioethics. Sixteen of the ethical terms were references to printed material. Four uses of the term bioethics were references to printed material.

Chapter 8, “Ideals, Virtues, and Conscientious Actions,” was made up of text and a Notes section. Analysis of the chapter text found twelve uses of the term ethics while no terms of bioethics were identified. Twelve references to other sections of the book were located. The Notes section contained 43 notes. Analysis of the Notes section found twenty three uses of the term ethics. The term bioethics was not identified in the Notes section. Twenty two uses of the term ethics were references to printed material. The term bioethics was not found as a reference to printed material.

Appendix I was consisted of 35 case studies. Analysis of the case studies revealed four uses of the term ethics. The term bioethics was not found. Analysis of Appendix II showed seven uses of the term ethics. The term bioethics was not located.

Analysis of the Bibliography of Suggested Readings consisted of 66 suggested readings. Of the thirteen entries in the Original Texts (Ethical Theory), five uses of the term ethics were found and no entries to bioethics were identified. Five of the entries were to ethical printed material. There were no entries to bioethical printed material. Seventeen entries were found in the Original Texts (Biomedical Ethics). Eight uses of the term ethics were found and one use of the term bioethics was identified. Eight entries were to ethical printed material while one entry was to bioethical printed material. Fourteen entries were found in the Anthologies section. Four uses of the term ethics and five uses of the term bioethics were found. Four entries in the Anthologies section were to ethical printed material and five entries were bioethical printed material. Five entries were found in the Reference Works section. Two uses of the term ethics and three uses of the term bioethics were identified. Two entries were to ethical printed material and three were to bioethical printed material. Seventeen entries in the Journal section were found. Five uses of the term ethics and three uses of the term bioethics were found. Five entries to ethical printed material and no entries to bioethical printed material were located.

Examination of the Index reveals 84 entries under the heading of ethics and bioethics. Of the 84 entries, 83 entries provided information pertaining to ethics in the text while only one reference to bioethics guided the reader to information about bioethics.

Analysis of the *Principles of Biomedical Ethics* (1983) chapter texts found a total of 99 ethical terms and 29 bioethical terms. An analysis of the chapter Notes sections identified a total of 125 ethical terms and 18 uses bioethical terms. In addition, there were 127 references to ethical printed material and 27 references to bioethical were printed material. A total of 66 entries were found in the Bibliography. Twenty four uses of the term ethics and 12 uses of the term bioethics were identified. Twenty four ethical terms and 27 bioethical terms were to printed material.

***Principles of Biomedical Ethics* (2001)**

Principles of Biomedical Ethics (Beauchamp & Childress, 2001), as in the 1983 edition, presented a systematic examination and analysis of moral principles in biomedicine as well as a discussion of four basic principles that serve as foundation for biomedical ethics. This edition offered readers a more in-depth explanation of the principles of moral theory for readers than the earlier version (1983). Beauchamp & Childress described the objectives of the book:

A set of [basic] principles in a moral account should function as an analytical framework that expresses the general values underlying rules in the common morality. These principles can then function as guidelines for professional ethics...four clusters of moral principles that serve this function. The four clusters are (1) respect for autonomy (a norm of respecting the decision-making capacities of autonomous persons), (2) nonmaleficence (a norm of avoiding the causation of harm) (3) beneficence (a group of norms for providing benefits and balancing benefits against risks and costs), and (4) justice (a group of norms for distributing benefits, risks, and costs fairly). (p. 12)

The *Principles of Biomedical Ethics* (2001) contains a Preface, Table of Contents, nine chapters, Appendix, and an Index. The text is divided into three parts. Part I, Chapters I and II, created a foundation for discussion of ethical principles and moral

character. Part II, consisted of Chapters 3-6 and Chapter 7. Chapters 3-6 presented the four basic principles of biomedical ethics that include autonomy, non-maleficence, beneficence, and justice. Chapter 7 offered a discussion of moral rules such as veracity, fidelity, privacy, and confidentiality in the health care provider and patient relationship. Part III, Chapters 8 and 9, explored moral theories, methods and moral judgments. The Appendix offered case studies in biomedical ethics for review and discussion. The Index contained alphabetically organized topics that guide the reader to sections of the book related to topic areas.

The Preface consisted of text and did not contain a Notes section. Analysis of the Preface revealed four uses of the term bioethics while the term ethics was not found.

Chapter 1, "Moral Norms," consisted of text and a Notes section. Analysis of the chapter text found 19 uses of the term ethics and 12 terms used for bioethics. Eighteen references to other chapters in the book were located. The Notes section contained 24 notes. Analysis of the Notes section showed 12 uses of the term ethics and 11 references to bioethics. Two uses of the term ethics were references to printed material. Six uses of the term bioethics were to printed material.

Chapter 2, "Moral Character," was made up of text and a Notes section. Analysis of the chapter text showed 11 uses of the term ethics and only one use of the term bioethics. There were no references to other sections of the book. The Notes section had a total of 58 notes. Analysis of the Notes section showed 35 uses of the term ethics and two uses of the term bioethics. Three uses of the term ethics were references to printed. The term bioethics was not used as a reference to printed material.

Chapter 3, “Respect for Autonomy,” was composed of text and a Notes section. Analysis of the chapter text showed four uses of the term ethics and six uses of the term bioethics. The text contained seven references to other sections of the book. Analysis of the Notes section revealed a total of 91 notes. Nine uses of the term ethics were found and twelve uses of the term bioethics were identified. Seven uses of the term bioethics were references to printed material. Twelve uses of the term bioethics were to printed material.

Chapter 4, “Nonmaleficence,” consisted of text and a Notes section. Analysis of the chapter text found eight uses of the term ethics and four uses of the term bioethics. Seven references to other sections of the book were found. The Notes section had a total of 85 notes. Analysis of the Notes section showed a total of 19 uses of the term ethics and five uses of the term bioethics. Thirteen uses of the term ethics were references to printed material. Three uses of the term ethics were references to printed material.

Chapter 5, “Beneficence,” was made up of text and a Notes section. Analysis of the chapter text found four uses of the term ethics and two uses of the term bioethics. The text contained 18 references to other sections in the text. The Notes section contained 114 notes. Of the 114 notes, 16 uses of the term ethics and 2 uses of the term bioethics were found. Eleven uses of the term bioethics were references to printed material. The term bioethics was not used as a reference to printed material.

Chapter 6, “Justice,” consisted of text and a Notes section. Analysis of the chapter text showed only two uses of the term ethics and three uses of the term bioethics. The text contained 9 references to other sections of the chapter. The Notes section had

105 notes. Analysis of the notes section found 15 uses of the term ethics and six uses of the term bioethics. Nine uses of the term ethics were references to printed material. Six uses of the term bioethics were references to printed material.

Chapter 7, “Professional – Patient Relationships,” was composed of the text and a Notes section. Analysis of the chapter text found 8 uses of the term ethics and two terms for bioethics. Nine references to other sections of the book were found in the text. The Notes section contained 103 notes. Analysis of the Notes section showed 29 uses of the term ethics and three uses of the term bioethics. Seventeen uses of the term ethics were references to printed material. Three uses of the term bioethics were references to printed material.

Chapter 8, “Moral Theories,” was made up of text and a Notes section. Analysis of the chapter found 44 uses of the term ethics and ten uses of the term bioethics. The text contained 16 references to other sections in the text. The Notes section consisted of 81 notes. Analysis of the notes section showed 22 uses of the term ethics and seven uses of the term bioethics. Twelve uses of the term ethics were references to printed material. Two uses of the term bioethics were references to printed material.

Chapter 9, “Method and Moral Justification,” consisted of text and a Notes section. Analysis of the chapter found two uses of the term ethics and one use of the term bioethics. There were 12 references to other sections of the book. The Notes section contained 49 notes. Analysis of the notes section showed 16 uses of the term ethics and 18 uses of the term bioethics. Twelve uses of the term ethics were references to printed material. Eight uses of the term bioethics were references to printed material.

Analysis of the ten case studies in the Appendix revealed that the terms ethics and bioethics were not found in the text. There were no references to other sections of the text. The Appendix did not contain a Notes section.

Examination of the Index of the *Principles of Biomedical Ethics* revealed 25 entries under the heading Bioethics. Of the 25 entries under the heading of bioethics, eight entries guided the reader to a chapter Notes section. The 17 remaining entries guided readers to information about bioethics in the text.

Analysis of the *Principles of Biomedical Ethics* (Beauchamp & Childress, 2001) revealed a total of 102 ethical terms and 45 bioethical terms in the text. The analysis of the chapter Notes sections showed 173 uses of the term ethics and 66 uses of the term bioethics. Further analysis of the Note section found 86 references to ethical printed material and 40 references of bioethical terms to printed material.

Summary of *Principles of Biomedical Ethics*

Both editions of *Principles of Biomedical Ethics* (Beauchamp & Childress, 1983; 2001) presented a systematic examination and analysis of moral principles for biomedical ethics. The authors provided information regarding of four moral principles approach to biomedical ethics (respect for autonomy, nonmaleficence, beneficence, and justice) that served as an analytical framework for looking at moral dilemmas that clinicians and health care professionals face in the areas of the practice of medicine and research. The latter version of the book (2001) offered readers a more in-depth discussion of the principles of moral theory for readers than the earlier version (1983). Examination of references and cross-references regarding ethical citations of the *Principles of*

Biomedical Ethics (1983; 2001) revealed a greater number of references to ethics and fewer references to bioethics in the text.

Medical Ethics

Medical Ethics (Veatch, 1989), was a required text over the years 1989-1990, 1995, 1996, and 1997. *Medical Ethics* contained chapters that provided readers with opportunities to become acquainted with current topics in the field of medical ethics. The chapters in the book not only address ethics in medicine but bioethics as well. Furthermore, as indicated in the text, a definite distinction was not be made when referring to the terms ethics and bioethics:

...the many continuing ethical problems in health care have nothing to do with prolonging life. They involve problems of privacy and confidentiality, consent, disclosure of critical illness or contagious disease, or problems of privacy and confidentiality, consent, disclosure of critical illness or contagious disease, or problems in psychiatry...different ethical positions will lead to different conclusions about what is morally appropriate in these circumstances...there is no reason to assume that being skilled in medical science will make one an expert in choosing among these basic philosophical and ethical positions. (pp. iii-vi)

Sometimes the term “bioethics” is used in place of medical ethics. The terms are now used almost interchangeably. Sometimes bioethics has a slightly broader meaning, including ethical problems of the biological sciences outside of medicine... We shall not make a sharp distinction between the two terms. This volume will examine systematically the major issues arising in medicine and, to some extent, the biological sciences. (pp. 6-7)

An analysis of the book consisted of a Table of Contents, Preface, twelve chapters, a glossary of terms and an Index. Each chapter of the book contained a Chapter Summary, followed by a discussion in the text of an aspect of medical ethics, a Reference Section and concludes with Discussion Questions. The authors use an endnote referencing style and readers are directed to one or more published works in the reference

sections. Analysis of the Index found only one reference to bioethics in the text of the book.

An analysis of the Preface was conducted in order to determine the occurrences of the terms ethics and bioethics in the text. The analysis of the Preface found three uses of the term ethics while the term bioethics was not found. There were no references to other sections of the book. The Preface did not contain a Reference section.

Chapter 1, “Medical Ethics: An Introduction” was composed of a Chapter Summary, text, a Table, Reference Section, and Discussion Questions. The Chapter Summary contains 14 uses of the term ethics and there is no mention of the term bioethics. Analysis of the chapter text found 75 uses of the term ethics and two uses of the term bioethics. There were no references to ethics or bioethics found in the five chapter Discussion Questions. The Table did not reveal the use of the terms either ethics or bioethics. There were no references to other sections of the book. Analysis of the 29 entries in the Reference Section showed 75 references to ethics and two references to bioethics. Twelve uses of the term ethics were references to printed material. Two uses of the term bioethics were found in the references to printed material.

Chapter 2, “The Normative Principles of Medical Ethics,” included a Chapter Summary, text, a Reference Section, and Discussion Questions. The Chapter Summary contained two uses of the term ethics and two uses of the term bioethics. Analysis of the chapter text found 15 uses of the term ethics and 13 uses of the term bioethics. There were no references to ethics or bioethics found in the five chapter Discussion Questions. There were no references to other sections of the book. Analysis of the 25 entries in the

Reference Section showed 11 uses of the term ethics and five uses of the term bioethics. Ten uses of the term ethics were references to printed material. Three uses of the term bioethics were found in the references to printed material.

Chapter 3, “The Concepts of Health and Disease,” consisted of a Chapter Summary, text, a Reference Section, and Discussion Questions. Analysis of the Chapter Summary did not find the use of the terms ethics or bioethics. The terms ethics and bioethics were not found in the Discussion Question section of the chapter. Analysis of the chapter text did not find either the term ethics and or the term bioethics in the text. There were no references to other sections of the book. Analysis of the 30 entries in the Reference Section showed three uses of the term ethics and two uses of the term bioethics. Two uses of the term ethics were references to printed material. Only one use of the term bioethics was found in the references to printed material.

Chapter 4, “The Physician-Patient Relationship,” was composed of a Chapter Summary, text, a Table, Case Studies, a Reference Section, and Discussion Questions. Analysis of the Chapter Summary found five uses of the term ethics and no uses of the term bioethics. Analysis of the chapter text revealed 37 uses of the term ethics and two uses of the term bioethics. Analysis of the four Discussion Questions did not find the use of either the term ethics or bioethics. The terms ethics and bioethics were not found in the chapter Table. Of the two Case Studies in the chapter, neither the term ethics nor the term bioethics was found. There were no references to other sections of the book. Analysis of the 30 entries in the Reference Section showed nine uses of the term ethics and two uses of the term bioethics. Fourteen uses of the term ethics were references to

printed material. Only one use of the term bioethics was found in the references to printed material.

Chapter 5, “Limited Resources,” included a Chapter Summary, text, a Table, Case Studies, a Reference Section, and Discussion Questions. Analysis of the Chapter Summary did not reveal the use of either the term ethics or bioethics. The terms ethics and bioethics were not found in the analysis of the chapter text. Analysis of the four Discussion Questions did not find the use of either the term ethics or bioethics. The terms ethics and bioethics were not found in the chapter Table. Of the three chapter Case Studies, neither the term ethics nor the term bioethics was found. There were no references to other sections of the book. Analysis of the 45 entries in the Reference Section showed three uses of the term ethics and one use of the term bioethics. Only one use of the term bioethics was found in the references to printed material. The term bioethics was not used as a reference to printed material.

Chapter 6, “Human Experimentation,” consisted of a Chapter Summary, text, a Table, Case Studies, a Reference Section, and Discussion Questions. Analysis of the Chapter Summary showed four uses of the term ethics and one use of the term bioethics. Analysis of the chapter text noted eight uses of the term ethics and two uses of the term bioethics. Analysis of the four Discussion Questions did not find the use of either the term ethics or bioethics. Of the two chapter Appendices, the term ethics was used once while the term bioethics was not found. There were no references to other sections of the book. Analysis of the 66 entries in the Reference Section showed seven uses of the term ethics and one use of the term bioethics. The terms ethics and bioethics were not

found in the list of Statutes, Regulations, and Cases. Seven uses of the term ethics were references to printed material. Only one use of the term bioethics was found in the references to printed material.

Chapter 7, “Informed Consent,” was composed of a Chapter Summary, text, a Reference Section, and Discussion Questions. Analysis of the Chapter Summary did not find either the term ethics or the term bioethics. Analysis of the chapter text showed 15 uses of the term ethics while the term bioethics was not found in the text. The terms ethics and bioethics were not found in the Discussion Question section of the chapter. There were no references to other sections of the book. Analysis of the 35 entries in the Reference Section showed eight uses of the term ethics and the term bioethics was not found. Seven uses of the term ethics were references to printed material. Only one use of the term bioethics was found in the references to printed material.

Chapter 8, “Genetics and Reproductive Technologies,” includes a Chapter Summary, text, a Reference Section, and Discussion Questions. Analysis of the Chapter Summary found two uses of the term ethics and the term bioethics was not used. Analysis of the chapter text showed ten uses of the term ethics while the term bioethics was not found in the text. The terms ethics and bioethics were not found in the five Discussion Question section of the chapter. There were no references to other sections of the book. Analysis of the 53 entries in the Reference Section reveals 17 uses of the term ethics and the term bioethics was not found. Thirteen uses of the term ethics were references to printed material. Only one use of the term bioethics was found in the references to printed material.

Chapter 9, “Ethical Issues in Transplantation,” consisted of a Chapter Summary, text, a Reference Section, and Discussion Questions. Analysis of the Chapter Summary did not find the use of the terms ethics or bioethics. Analysis of the chapter text showed 17 uses of the term ethics and four uses of the term bioethics. The terms ethics and bioethics were not found in the five Discussion Question section of the chapter. There were no references to other sections of the book. Analysis of the five entries in the Reference Section reveals 17 uses of the term ethics and three uses of the term bioethics. Four uses of the term ethics were references to printed material. The term bioethics was not used as a reference to printed material.

Chapter 10, “Moral Problems in Psychiatry,” is composed of a Chapter Summary, text, Case Studies, a Reference Section, and Discussion Questions. Analysis of the Chapter Summary did not reveal the use of the terms ethics or bioethics. Analysis of the chapter text showed one use of the term ethics while the term bioethics was not found. Analysis of the four Discussion Questions did not find the use of either the term ethics or bioethics. Of the 13 Case Studies in the chapter, neither the term ethics nor the term bioethics was found. There were no references to other sections of the book. Analysis of the 66 entries in the Reference Section showed 17 uses of the term ethics and one use of the term bioethics. Nine uses of the term ethics were references to printed material. The term bioethics was not used as a reference to printed material.

Chapter 11, “Health-Care Delivery and Resource Allocation,” includes a Chapter Summary, text, a Reference Section, and Discussion Questions. Analysis of the Chapter Summary showed one use of the term ethics and the term bioethics was not found.

Analysis of the chapter text reveals 31 uses of the term ethics and the term bioethics was not found. Analysis of the four Discussion Questions reveals five uses of the term ethics while the term bioethics was not found. There were no references to other sections of the book. Analysis of the five entries in the chapter Reference Section revealed 17 uses of the term ethics and one use of the term bioethics. Two uses of the term ethics were references to printed material. The term bioethics was not used as a reference to printed material.

Chapter 12, “Death and Dying,” consisted of a Chapter Summary, text, a Case Study, a Reference Section, and Discussion Questions. Analysis of the Chapter Summary showed two uses of the term ethics and the term bioethics was not found. Analysis of the chapter text revealed four uses of the term ethics while the term bioethics was not found. Analysis of the five Discussion Questions revealed one use of the term ethics and the term bioethics was not found. There were no references to other sections of the book. Analysis of the 28 entries in the chapter Reference Section revealed seven uses of the term ethics and one use of the term bioethics. Nine uses of the term ethics were references to printed material. The term bioethics was not used as a reference to printed material. Three uses of the term ethics were references to printed material. The term bioethics was not used as a reference to printed material.

A Glossary of Terms and an Index section were noted following the end of the book chapters. Analysis of the Glossary of Terms revealed one use of the term ethics and the term bioethics was not found. Analysis of the Index showed 27 entries of the term ethics and one entry of the term bioethics.

Analysis of *Medical Ethics* (Veatch, 1989) texts found a total of 232 ethical terms and 28 bioethical terms. Examination of references and cross-references regarding ethical citations revealed a greater number of references to ethics and fewer references to bioethics in the texts. An analysis of the chapter Reference sections identified a total of 208 ethical terms and 21 uses bioethical terms. In addition, 84 uses of the term ethics and eleven uses of the term bioethics were found to printed material.

Although, according to the author, the term “bioethics” was used almost interchangeably in place of medical ethics throughout the text. The more frequent use of the term ethics and fewer uses of the term bioethics as well as a lack of a definitive distinction between the two terms could lead to a source of confusion for the reader.

Summary of Texts

The conclusion of the examination and analysis of the texts, references and cross-references, regarding ethical and bioethical citations in each of the books analyzed found an overall greater number of references to ethics and fewer references to bioethics (Table 9). In addition, examination and analysis of the text revealed a tendency of authors to make little or not distinction between the terms ethics and bioethics.

Table 9 Number of times bioethics (B) and ethics (E) appear in various texts

	Text Analysis		References/Notes		References to Printed Material		Bibliography		References to Printed Material	
	E	B	E	B	E	B	E	B	E	B
Major Texts										
<i>Clinical Ethic</i>	538	238								
(Jonsen, Siegler & Winslade, 1982)										
<i>Introduction to Clinical Ethics</i>	926	116	390	125	138	61				
(Fletcher, Hite, Marshall & Miller, 1997)										
<i>Introduction to Clinical Ethics</i>	757	74	300	68	174	51				
(Fletcher, Hite, Lombardo & Marshall, 1995)										
<i>Medicine as a Human Experience</i>	0	0	0	0	0	0				
(Reiser & Rosen, 1985)										
<i>Principles of Bio-medical Ethics</i>	99	29	125	18	127	27	24	12	24	27
(Beauchamp & Childress, 1983)										
<i>Principles of Bio-medical Ethics</i>	102	45	173	66	86	40				
(Beauchamp & Childress, 2001)										
<i>Medical Ethics</i>	232	28	208	11	84	11				
(Veatch, 1989)										
Notes: E = Ethics; B = Bioethics										

Summary

The review of the Texas A&M College of Medicine catalogs and bulletins provided information about the study of the infusion of bioethics into the curriculum. The review of the over the years 1977-2009, with the exception of 1999-2000 missing catalogs, was conducted for the purpose of identifying references to bioethics in the curriculum. Although the terms ethics and humanities were noted in the General Statements sections of the COM catalogs and bulletins, no references to bioethics were found. In addition, bioethics was not found in the descriptions of other courses or electives offered in the department.

Examination of the nineteen syllabi examined showed only three lectures that included bioethics in the lecture title. Although the term bioethics was not extensively used in the curriculum nevertheless, student received weekly exposure to ethics in the curriculum. Students received limited exposure to bioethics in the course during the years of the study.

Examination of texts, references and cross-references regarding ethical and bioethical citations in each of the books analyzed revealed an overall greater number of references to ethics and fewer references to bioethics. It must be noted, that the book, *Medicine as a Human Experience* (Reiser & Rosen, 1985), did not contain either ethical or bioethical citations.

This chapter presented the results of the study question. The next chapter will consist of the study findings, conclusions, and recommendations for future study.

CHAPTER VII

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

The purpose of this study was to determine how the study of bioethics has been incorporated into the medical education curriculum at the Texas A&M Health Science College of Medicine. In order to provide an understanding of how bioethics developed as a discipline and influenced the preparation of students in the medical education curriculum, this study first looked at the development of bioethics in the historical literature. Lastly, this study looked at the influence of bioethics on the preparation of students in the medical education curriculum at the Texas A&M Health Science College of Medicine.

A brief history of medicine, medical education, and medical ethics served as the foundation through which this understanding was accomplished using the four thematic strands of Magico-religious, Medical education, Ethics of practice, and Philosophical – Theological. In tracing the development of medicine, medical education, and ethics over the past 2000 years, the process was one of incremental change, from superstition and religion to professional, and, finally, scientific practice. Despite the changes over time, remnants of the four thematic strands remain in the present, for example, in the response of religious personalities to natural disasters such as Hurricane Katrina in 2005 and the Haitian earthquake 2010 as reflections of divine judgments.

The medical ethics, and later bioethics, of a society can be regarded as a micro-cosm of the social ethics of a particular society. Thus, the ethical responsibilities of

healers must be viewed in terms of their role in the understanding of the treatment of illness, and healing within the reality of the social and cultural values of their culture.

The discipline of bioethics began to evolve in the years following World War II as a response, in part, to events that occurred during and following World War II. The atrocities of human experimentation carried out by Nazi physicians and the absence of voluntary consent of the individual to participate in research experiments resulted in the creation of the Nuremberg Code. The most salient of the principles set forth in the Nuremberg Code was that of obtaining the voluntary consent of individuals to participate in research experiments. The scientific practice of medicine, driven partly by military needs and technological developments, changed “what was possible” in the mid-20th century, creating conditions that caused practitioners to question whether “what was possible” should actually be done in medicine.

In the late 1960s and early 1970s, bioethics began to emerge as a field.

Fletcher, Hite, Lombardo, and Marshall (1995), described the early bioethics movement as consisting of two branches. The first branch was “one [of] interdisciplinary dialogue and [of] literature” and was referred to as bioethics or biomedical ethics. The second branch was seen “as an agenda for social change that was supposed to guide decision making with human subjects of research and patients” (p. 4). Bioethics in this context was viewed as a subdiscipline of the field of ethics.

The Tuskegee Syphilis Study (1932-1972) served as an example of a bioethical dilemma that occurred as a result of the advent of medical new technology (e.g., the treatment of syphilis with the antibiotic penicillin) and highlighted the need for social

change in the conduction of research with human subjects. The study brought about changes in research practices that would ensure research with human subjects would be carried out in an ethical manner. As a result of the Tuskegee Syphilis Study, the passage of the National Research Act became a law in 1974 along with the creation of the National Commission for the Protection of Human Subjects of Biomedical and Behavioral Research (CDC, 2014).

The Belmont Report was crafted as a summary of the Commissions' findings. The Belmont Report contained three foundational principles for the use of human subjects in research for biomedical ethics. The three principles included respect for persons (respect for decision making capacities of individuals), beneficence (balancing risks and benefits), and justice (distributing benefits, risks, and costs fairly).

This chapter provides a review of the purpose of the study and explains the significance of the study. The research question was addressed along with a summary of the study findings and conclusions, and recommendations for further study.

Research Question

The following research question guided this dissertation: How has the study of bioethics been implemented and taught in the medical school curriculum at the Texas A&M Health Science College of Medicine?

Findings and Conclusions

Validity in this study was obtained through the use of triangulation and prolonged observation of documentation (Merriam, 1988). Triangulation in this study was

achieved through the use of course catalogs, syllabi, texts. Repeated observation of documents and data was carried out over the course of the study.

Curriculum

This study looked at the curriculum over time, the syllabi over the years of the study, and the readings found in the available syllabi. In order to document how the study of bioethics has been incorporated in the medical education curriculum at the TAMHSC-COM, it was necessary to look at the development of the curriculum from the inception of the medical school program in 1977 through 2009. Following the review of the COM available archival material, a curriculum map of the years of this study (1977–2009) was constructed that provided an overview of the curriculum course offerings and approximate hours of instruction. The curriculum map revealed areas of learning important for students to master, showed areas of lesser emphasis, and revealed the program's overall plan for learning.

Examination of the curriculum map found that the Medicine and Human Values: Introduction to Medical Ethics course was offered continuously from 1977–1979.

The course hours of instruction ranged from 32–60. Over the years 1977–1979, sixty course hours per year were delivered. In the years 1980–1989, 48 hours per year were taught. By 1990–2009, the course hours per year dropped to 32. The wide range of course hours over time and the current course hours offered in 2009 indicated decreased emphasis and opportunities to present ethical and bioethical issues to students.

Syllabi

This study looked at the available syllabi over the years 1977–2009. The syllabi served to inform students about the purpose, objectives, requirements, readings, and content of the course. Examination and analysis of the nineteen available syllabi revealed only three class lectures that presented bioethics as a course topic. In 2003, James R. Wild, Ph.D. presented a lecture titled “Genetics and Bioethics”. In 2005–2006, Gül Russell, Ph.D. offered a lecture titled “From Hippocrates to the Emergence of Bioethics: Critical Cases”. The conclusion drawn from the examination and analysis of the available syllabi showed that students experienced only limited exposure to bioethics and implied that bioethics was not emphasized as a course topic in the Medicine and Human Values: Introduction to Medical Ethics course.

Texts

In order to determine how often students would encounter bioethics in their readings, an examination and analysis of the major texts was conducted. The analysis covered five books (in various editions) used a minimum of four years during the course of this study (Table 10).

The conclusion of the examination and analysis of the texts, references and cross-references, regarding ethical and bioethical citations in each of the books analyzed revealed an overall greater number of references to ethics and fewer references to bioethics.

Table 10 Major texts used at least 4 years 1985-2009

Books	
Major Texts	Years Used
<i>Principles of Biomedical Ethics</i> (Beauchamp & Childress, 1983)	86-87, 87-88
<i>Principles of Biomedical Ethics</i> (Beauchamp & Childress, 2001)	2003, 2004, 2005, 2008, 2009
<i>Introduction to Clinical Ethics</i> (Fletcher, Hite, Lombardo & Marshall, 1995)	2003, 2004, 2005
<i>Introduction to Clinical Ethics</i> (Fletcher, Hite, Marshall & Miller, 1997)	2002
<i>Clinical Ethics</i> (Jonsen, Siegler & Winslade, 1982)	1985-1986
<i>Clinical Ethics</i> (Jonsen, Siegler & Winslade, 1992)	1995, 1996, 1997
<i>Clinical Ethic</i> (Jonsen, Siegler & Winslade, 1998)	2000, 2001
<i>Clinical Ethics</i> (Jonsen, Siegler & Winslade, 2002)	2002, 2003, 2004, 2005, 2008, 2009
<i>Medicine as a Human Experience</i> (Reiser & Rosen, 1985)	1995, 1996, 1997, 1998, 2000, 2003, 2004, 2008, 2009
<i>Medical Ethics</i> (Veatch, 1989)	1989-1990, 1995, 1996, 1997

One conclusion to be drawn is that the College of Medicine instructors followed the trend of the medical field in not emphasizing bioethics as a separate discipline, espe-

cially after recognized authors ceased to make their distinction. Although the idea of bioethics as a new discipline was not found in the curriculum, it was evident in practice, as evidenced in the catalogs, syllabi, or texts.

Authors such as Veatch and Fletcher used the terms “ethics” and “bioethics” interchangeably while acknowledging them as separate entities.

Sometimes the term “bioethics” is used in place of medical ethics. The terms are now used almost interchangeably. Sometimes bioethics has a slightly broader meaning, including ethical problems of the biological sciences outside of medicine... We shall not make a sharp distinction between the two terms. (Veatch, 1989, pp. 6-7)

We understand these terms [ethics and bioethics] to be interchangeable, but we understand bioethics to be a movement much broader than an academic discipline. (Fletcher, Lombardo, Marshall, Miller, 1997, p. xi)

According to Fletcher et.al. (1977) the term “bioethics” was used almost interchangeably in place of the term medical ethics throughout the text. A further conclusion is found in the more frequent use of the term ethics and fewer uses of the term bioethics and in the lack of a definitive distinction between the two terms that could create a source of confusion for the reader.

Significance of the Study

Except for a study conducted in Australia (1992), no case studies regarding the inclusion of bioethics in the medical school curriculum were found in the scholarly literature, including dissertations. Furthermore, no study has been published reporting the inclusion of bioethics in the Texas A&M Health Science Center College of Medicine curriculum. This study adds to the scholarly literature regarding the inclusion of bioeth-

ics in the Texas A&M Health Science Center College of Medicine curriculum and to the recognition of bioethics as a discipline.

A review of the available COM curriculum archival material was conducted for the years 1977-2009 (with the exception of 2001-2003 when no data was available). The review revealed that no document containing a comprehensive view of the COM curriculum over time existed. This study added to the scholarly literature through the creation of a curriculum map of the years of the study (1977-2009). The curriculum map provided insight into the curriculum of the COM as well as the program's overall plan for learning over time.

Another significance of the study relates to the relationship between scholarly analysis of a movement or trend and its introduction. If scholars wait until a term or practice has been accepted as "usual practice", retrieving the details of the origin of the change may be difficult due to the lack of records or frailty of memory of the participants. The term or practice of bioethics arose following World War II in response to new advances in the biomedical sciences. By the mid-1970's, bioethics was recognized as a distinct discipline. As a discipline, bioethics is influenced, both historically and currently, by theology and philosophy. A lack of distinction by authors of the course texts to make a distinction between the terms "ethics" and "bioethics" contributes to a lack of recognition of bioethics as a separate discipline in the literature.

Recommendations

The terms ethics and bioethics were found to be used interchangeably in the texts. Further research based study findings would include interviews with authors of the texts such as Jonsen, Beauchamp, and Childress, in order to gain a better understanding of the evolution of the two words ethics and bioethics and of bioethics as a distinct discipline.

Single case studies are unique to the individual setting and, therefore, have limited value beyond the circumstances of the case studied. The results obtained from a single case study do not necessarily represent findings that can be generalized to other cases, populations, or settings.

The results of this study were reported through the process of a rich, thick description of the case context. These results, though limited in their usefulness for generalization to other case studies, can be used in future studies to serve as a basis for developing multiple-case studies that compare and contrast the inclusion of bioethics in medical school curriculum at multiple sites.

Another recommendation is that this research continue as an ongoing study of the inclusion bioethics in the Medicine and Human Values: Introduction to Medical Ethics course beginning 2009. The continuation of this study could provide information about the continued inclusion and effectiveness of teaching bioethics in the course and could serve as a means for tracking student attitudes toward bioethics in the course over time. Furthermore, this study did not include bioethics in the clinical years of the curriculum. Future studies could look at bioethics in the clinical clerkship years. Including the clini-

cal clerkship years in future studies would provide information about the impact of the Medicine and Human Values: Introduction to Medical Ethics course on students in the clinical setting.

The COM, the Department of Humanities in Medicine, and the Medicine and Human Values: Introduction to Medical Ethics course does not have an organized depository for archival materials. A Paucity of archival records was noted during the data collection phase of this study. The creation of a system for collecting and storing archival records is recommended. Archival records are useful for their value in research and help to preserve the historical and cultural character of an entity.

The COM has experienced changes in locations over the years along with changes in faculty and departmental personnel which have resulted in historical records being misplaced or lost. A system for collecting and storing of archival records would help in the preservation of the history of the institution. Preservation of archival records would also help in the identification of trends and changes in the curriculum over time.

Also, changes in the location and personnel of the Department of Humanities in Medicine over the years have resulted in the loss of departmental historical and course materials. Dr. Knight's vision for the Department of Humanities in Medicine was that ethics should be the focal point of the department as well as the emphasis of the Medicine and Human Values: Introduction to Medical Ethics course and whether ethics remained the focus of the department and the course. Furthermore, obtaining oral histories from individuals who have a history of longevity in the department and who created and

taught the Medicine and Human Values: Introduction to Medical Ethics course would serve to preserve historical information.

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